



CRITICAL REALISM

CRITICAL REALISM

A STUDY OF THE NATURE AND CONDITIONS
OF KNOWLEDGE

By

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THE PREFACE

The present work is an attempt to state systematically the essential problems of epistemology. These problems are real; they can be stated clearly, and they can, I am convinced, be solved. What do we mean when we say that we *know* a thing? What are the conditions of such knowledge? These questions and the numerous other questions to which they lead are as empirical as any questions to be found in the special sciences and, so far as I can see, just as susceptible of being answered in a satisfactory way. But the individual thinker who approaches them must rid his mind of prejudices and be prepared to spend some time in a preliminary survey of the facts. He must, moreover, be willing to regard his conclusions as tentative and of the nature of hypotheses. Such is the spirit which I have tried to maintain throughout the present work.

The positions which I am setting forth in the following pages are the summary of many years of teaching and of hard and pretty constant thinking, inside the class-room and without. As time passed, I found myself drifting ever more decidedly toward realism and naturalism. I became increasingly aware of the realistic structure of the individual's experience and noted those distinctions and meanings in which this structure was expressed. Whether these distinctions and meanings could be justified was the question uppermost in my mind. While the pressure of my reflection was evidently toward realism, I was dissatisfied with the customary realisms and felt that idealism had the better of the argument so far as generally accepted principles were concerned. It was at the very best a drawn battle between them.

Every realist who wishes to justify the faith that is in him must meet the arguments of Berkeley, not only his more formal principle that to be for the sensible world is to be perceived, but also his argument from content that all objects can be analyzed into sensations. Hume, and in our own day, F. H. Bradley, have also driven home to philosophy the psychical character of everything which is directly present in the field of experience. My knowledge of psychology and of logic made me realize the pervasive influence of mental activity; made me able to bear in mind the processes which made possible those apparently stable products which presented themselves to me so ready-made and external. The problem which

was formulating itself was to reach a position which would do justice to both the idealistic motives in experience and the realistic structure and meanings. Was there not some way out? Could not some more adequate standpoint be reached? I determined to analyze the nature of scientific knowledge to see whether it would give me a clue.

A careful study of modern science in the light of my epistemological problem did give me a clue which it took some time to work out. Do not both Locke and Berkeley have essentially the same view of knowledge? For each of them — if there is to be knowledge of the physical world — it must be of the nature of direct or indirect *apprehension*. Either the physical world itself or a substitute copy must be present to the understanding when we think. Berkeley meets Locke on this ground and overcomes him. The physical world cannot be *like* our ideas; hence, we cannot know it. Therefore, there is no good reason to assume its existence.

But is actual scientific knowledge an attempt to achieve images which faithfully copy the physical world? Does not this knowledge consist, instead, of propositions which claim to give tested *knowledge about* the physical world? I want the reader to get clearly in mind the difference of outlook which this suggestion involves. *It involves a relinquishment of all attempts to picture the physical world.* Science offers us measurements of things and statements of their properties, *i.e.*, their effects upon us and upon other things, and of their structure; but it unconsciously swings ever more completely away from the assumption that physical things are open to our inspection or that substitute copies are open to our inspection.

This result of the study of actual scientific knowledge was illuminating. I immediately saw how Berkeley's arguments could be out-flanked. They were based on a conception of knowledge which did not hold for science. The scientist-as-such was not aware of the problem, nor was he in a position to see the exact bearing of his own results upon epistemology. That was the task of the philosopher. The systematic development of this new point of view was the problem I set myself. Gradually a full-fledged theory of knowledge formulated itself in my mind. For want of a better name, I have called it Critical Realism.

To be understood properly, Critical Realism must be connected with a non-apprehensional view of knowledge. Scientific knowledge about the physical world consists of propositions which do not attempt to picture it. It is upon this principle that I take my stand. These propositions must be tested immanently or within experience, but, after being so tested, they are considered as being

knowledge about that which can never be literally present within the field of experience, although it controls the elements in the field. But the reader will understand this position better as he follows the detailed argument. This much of anticipation may, however, act as a guide.

My thesis is, then, that idealism and realism have had essentially the same view of knowledge and that the large measure of sterility which has accompanied philosophical controversy is due to this constant assumption that knowledge always involves the presence of the existent known in the field of experience. Philosophy limited itself to a controversial study of the subject-object duality and did not lift its eyes to the triad consisting of subject, idea-object (in science analyzable into propositions), and physical existent. It is to this triad that Critical Realism calls attention. It is my persuasion that this more complex form of realism does justice to the truth contained on both sides in the old antithesis. And it is this inclusiveness as much as anything else that convinces me that I am on the right track.

But my thinking has, from the first, been very much influenced by the mind-body problem. I have always thought that this age-old problem would be the crucial test of any philosophical system. There can be no doubt that constant brooding over this tantalizing question exerted a pressure on me in the direction of realism and, at the same time, controlled my thinking. How could I obtain a realism without a dualism? Chapter IX gives my solution. Consciousness is a variant within those highly evolved parts of the physical world which we call organisms. Perhaps the most novel idea in the chapter is that consciousness is actually extended. I feel certain that the reader will find many parts of the chapter extremely interesting. I have no doubt that many critics will speak of the position as Materialism; I prefer to call it Naturalism. The reason for this preference is that Materialism has never had an adequate theory of knowledge back of it and, therefore, has misleading associations in regard to the nature of the physical world. If the critic desires to follow the present liking for the word "new" he is at liberty to call my position Neo-Materialism or the New Materialism. What I particularly desire both critic and general reader to do, however, is to see the solution of the mind-body problem in the light of Critical Realism as a theory of knowledge.

The reader may, perhaps, be helped to grasp the rather long and intimately connected argument of the book if I point out its general movement.

Chapter I begins with a description of the plain man's outlook,

which is called Natural Realism. The plain man believes that the *physical thing itself* is present in his field of vision. I try first to show how natural this belief is and then to point out fatal objections to it. The conclusion arrived at is that we perceive percepts, or thing-experiences, and not physical things. The physical world retreats into the background and the perceptual experience is thought of as under two *controls*, the physical thing and the body. We begin to suspect that perception and knowledge are not the same, but do not yet know what knowledge is.

Chapter II examines Natural Realism in the light of science and points out the growth of what may be called scientific realism. The percept and the physical thing are pretty well distinguished, but the reach of scientific knowledge remains vague. When the problem of knowledge is raised, reflective scientists divide themselves into at least three groups, but there is no clear consensus of opinion. The tendency to picture the physical world still lingers.

Chapter III concerns itself with the Advance of the Personal. Both percepts and concepts are seen to be personal, and the meaning "commonness" gives way to "correspondence." We have correspondent percepts and concepts; we do not see the same things nor have the same ideas. This result is entitled mental pluralism, and is considered a reflective level of an empirical sort to be sharply opposed to idealism which is a theory.

Chapters IV and V contain analyses of the field of the individual's experience. The essential distinctions of what I call the coexistential dimension of the field are seen in the light of the temporal, or process, dimension. These chapters complete the empirical foundation.

Chapter VI includes an examination of both subjective and objective idealism. The principles of these systems are shown to be fallacious. I would especially call the attention of the reader to the criticism of the assertion, characteristic of the objective idealist, that the causal category has validity only within experience. This assertion is shown to be ambiguous. If knowledge has a reference to that which is outside of the field of the individual's experience, the causal category, which is a part of the framework of that knowledge, must follow this reference. The error of idealism turns out to be the assumption that knowledge demands the presence in experience of that which is known. Here I make appeal to the triad referred to above.

Chapter VII exhibits the inadequacy of mental pluralism. Seven problems are developed in some detail to demonstrate the pressure within experience to the acceptance of an external control of experience and a continuous medium within which minds live and

move and have their being. The thought of the physical world comes back with renewed force.

Chapter VIII discusses certain epistemological problems of particular interest. I would call the attention of the reader to the criticism of the assumption, characteristic of panpsychism, that the mental cannot contain knowledge of the non-mental. This assumption is shown to rest on the idea of knowledge, cherished by Natural Realism, that knowledge involves the presence of the existent known, so that the very material of the existent must be revealed. Here, again, the new meaning of knowledge stands us in good stead. Scientific knowledge is not an intuition of the stuff of the physical world. Thus Critical Realism establishes itself as the only satisfactory hypothesis which will solve the problems raised by reflection.

Chapter IX concerns itself with the mind-body problem as a crucial test of Critical Realism. As we have already referred to the conclusions drawn, we can omit any further summary.

Chapter X is given to a study of the new meaning of knowledge and the experiential structure which makes extra-experiential reference possible. The reader will find the discussion of denotation particularly important. I have tried to show that there is nothing mysterious in the mechanism of reference; that it depends upon the realistic structure of the field of experience. The new meaning of knowledge is now seen to contain two elements: the idea-object which is accepted or believed, and the moment of reference. The idea-object is *knowledge* and also *knowledge-about*. And this knowledge is just the kind of knowledge which it purports to be. We can eliminate from science all attempt to intuit or picture the physical world. Any such tendency is a hold-over from Natural Realism. We have out-flanked Berkeley. One more point is taken up in this chapter — the meaning of truth. I try to show that truth is a contrast-meaning whose opposite is error. Both presuppose knowledge, but they arise as a consequence of the experience of disappointment. Some idea-objects accepted as knowledge turn out later not to be knowledge. Truth is thus a purely empirical meaning connected with idea-objects. The criteria of truth have been worked out in scientific method. The study of these criteria is the work of the logician who really knows his science. Pragmatism had considerable meaning as a criticism of the vaguenesses of the traditional idealisms, but it has encouraged looseness of thought. The reason for this is that it was not founded on an adequate theory of knowledge.

The present work was completed in the spring of 1913. Since

then I have been at work on the Categories. These Categories represent the framework of our *knowledge about* the universe in which we live, and their study will constitute what is traditionally called Metaphysics.

I wish to make acknowledgment to my wife for her assistance in proof-reading and for many helpful suggestions in regard to the literary side of the work. Every philosophical system depends upon the thinkers of the past and of the present. Where I have been able, I have freely acknowledged my indebtedness. I owe much to the intellectual atmosphere in which I have lived while doing this work and to the stimulus given by my colleagues at the University of Michigan although none of them must be held responsible for any of the views herein expressed.

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CRITICAL REALISM

CHAPTER I

THE SETTING OF THE PROBLEM: NATURAL REALISM

PHILOSOPHY properly begins in a description of human experience. It must give close attention to the distinctions, meanings, and attitudes which are characteristic of man's natural view of the world in which he lives. Such a preliminary study prepares a foundation upon which the thinker may work. He is aware that it presents an organization of experience and an outlook which is the expression of habits and judgments slowly formed through ages. It is the part of wisdom, then, to examine this gradually developed view of nature and of man with great care in order to see what its principles and pre-suppositions are and to determine how far these are tenable. Without this empirical basis and without the respect for the accumulated insight of multitudes of human beings to which it testifies, the thinker, with individual perspective founded on particular problems and facts, is very apt to be led astray. Reason often creates difficulties instead of solving them, and the history of philosophy bears witness to the blind vortices into which genius has at times thrown thought. The advance of philosophy, like that of science, must be gradual, and the starting-point must be the experience of everyday life.

The outlook of the plain man on the world is realistic. He perceives what he calls physical things and reacts to them in appropriate ways. He believes that these physical things are experienced in much the same manner by all normal human beings and that they are evidently independent, for their properties and existence, of man's experience of them. All workers see and handle the tools which are necessary for co-operation. Sailors pull on the same rope; the farmer and his

helpers load the same wagon with sheaves of wheat or barley grown on a field which has been tilled by them year after year; factory "hands" who, for a pittance, tend the whirring machinery day after day, would laugh at the suggestion that it is less real than they who are its servants. But why multiply examples? To none of us does this outlook seem strange. Stars, rivers, mountains, tenements, street-cars, books—to enumerate things at haphazard—are all considered objects which exist in a common world to which we must adapt ourselves. There is every reason to believe that these general distinctions are universal with the human race, although the properties assigned to particular classes of things vary greatly from age to age.

The physical world is, then, regarded not only as common to the experiencing of all individuals but also as independent, for its existence and nature, of the individuals who experience it. It is probable that the commonness of the objects is considered a result of their independent existence. You and I perceive the same tree because it is there to be perceived. Commonness is the inevitable consequence of a relation of two persons, capable of perceiving, to the selfsame existence. This would be, at least, the plain man's explanation of the fact of commonness. As we shall have occasion to note in another connection, commonness and independence have, from the genetic point of view, a more intimate relation than this explanation indicates; they grow up together and reënforce each other. But common sense is not necessarily aware of the motives and processes which lie back of its outlook and make it possible. Within the world of common sense, it is more natural to make the commonness of things a result of their independence than their independence a result of their commonness. When I am alone in my study I see things which I regard as independent and as real as I myself. At the time, they are not common, for others do not see them. Commonness thus seems to be a secondary characteristic of objects added to their independence. When we examine what the plain man means by "seeing" or "perceiving," we find that this is of the nature of an event in which the object is revealed to the individual. And when we ask what is meant

by the term "independence," we find that it signifies that physical things are as real as the individual who perceives them and that he can affect them only by overt action, much as one thing affects another.

That the point of departure is the supposedly independent thing, is made still more evident when we examine the plain man's explanation of the changes which occur in his experiences of the same thing. These are accounted for by changes in his relations to these objects. His experiences are functions of the unvarying object in its varying relations to himself as a perceiver. Again, when an object is no longer seen, it is not supposed that it has ceased to exist. Physical things are thought of as permanent, just as individuals are, to the degree determined by their nature and causal connections. It is from these assumptions as a basis that we explain their appearance and disappearance in our field of vision. When I leave my study, I take it for granted that the desk will remain such as it was while I was there to perceive it. As a matter of fact, everything countenances this belief, which is at the bottom of the plain man's view of the world, that things are existences which we perceive but which are quite independent of this event. Berkeley may consider this belief the height of abstraction, but even the most mediocre mind so views nature. We start from independent things, and not from percepts.

This attitude toward the physical world, in which it is considered independent of the event of perceiving and hence common, may be called that of Natural Realism. Natural Realism is a growth, as we shall see later, but the plain man is not aware of the logical and factual motives which have led him to this position. The view is based on the exigencies of biological and practical life and is as natural to us as are our instincts. Man is outward-looking: perception as an event or act has an immediate object, and this is the physical thing which exists in a common, independent sphere whose general characteristics are fairly well known. While the conditions of this act or event are, to some extent, matters of general information, they are seldom reflected upon, and the event itself remains unique. This uniqueness and apparent

directness of perception is expressed in common parlance in the phrase, "Open your eyes and you cannot help seeing." It is evident that the object with its associated meanings and the attitude which it evokes dominates the individual. This dominant rôle played by the object is all the more inevitable that perception does not usually involve a consciously strained attention. Accordingly, grant the nature of the physical thing perceived, in the context of normal tendencies and dispositions, and any working view other than Natural Realism is improbable. The individual perceives things, and not percepts.

This general description is true of Natural Realism in the primary or uncritical form in which it is the matrix of realistic theories of all sorts. No reflective theory of the nature of the event which is called *perceiving*, or *experiencing*, an object is as yet developed. Certainly, there is no intuition of a peculiar ego or subject as the seat of this event. What would be insisted upon, first of all, is the presence of the object to the individual. We see what is around us and the *we*, who see these things, are concrete individuals. There is nothing recondite or mysterious about the individual who perceives. To these things we can assume various attitudes according to our interests. We may simply observe them or we may handle them; but, all the while, they are out there as real as ourselves. Furthermore, their relations and properties are unchanged by our perception of them. We take them unawares, so to speak. We are to them as Fortunatus in the fairy story with his cap of darkness. They enter into no peculiar relation to the perceiver but are rather flooded with light and rendered visible. Natural Realism, in the form in which it is a true description of our ordinary outlook on nature, is a flat epistemological dualism in which there is no peculiar, non-physical relation between the individual and the object—the two terms of the dualism. And the term, epistemological, can be used here only by courtesy, since the personal pole is the concrete individual and not an abstract subject or centre of awareness. The individual, as one thing among others, has simply the ability to take in these other things along with himself. We shall find these facts, the

absence of any peculiar ego and of any unique perceptual or cognitive relation, of great significance for theory of knowledge. Let us remember, however, that we possess in descriptive Natural Realism, not a theory of what takes place, but a statement of what *appears* to take place.

It is, perhaps, at this point that we can best understand the objections which the plain man—and I hope others—takes to Berkeley's principles. Does not Berkeley assume a standpoint different from the natural one and argue from it as though it were the natural one? In other words, is he not perilously near what is called begging the question? He admits (*Principles of Human Knowledge*, secs. 4 and 5) that it is "an opinion strangely prevailing amongst men that houses, mountains, rivers, and, in a word, all sensible objects have an existence, natural or real, distinct from their being perceived by the understanding." This is a correct description of what we have designated Natural Realism. Berkeley asserts, however, that this position involves a manifest contradiction. "For what are the fore-mentioned objects but the things we perceive by sense? And what do we perceive besides our own ideas or sensations?" Evidently, Berkeley assumes it beyond question that we perceive, not things, but sensations or psychical elements concreted together. It follows that he has substituted idealism for the meanings and attitude of Natural Realism, and has argued, with this substitution as a basis, that things cannot exist apart from the act of perception. Thus, he creates a contradiction in the plain man's outlook which did not exist in it before. It may be that idealism is right, that objects are nothing but our ideas; but do we so consider them? Berkeley's claim that things are nothing but sensations forces the problem of knowledge upon us. It does not, however, prove idealism, for the reason that it disregards the demands of cognition because they seem to him to involve abstraction. His fear of abstractions prevented him from examining thoroughly the structure and distinctions characteristic of cognition.

We have already given reasons for the belief that the thinker should start from the standpoint of Natural Realism. Let us look at this point a little more closely. Philosophy is a

product of reflection. Consequently, it arises in an experience already organized. Its task is, therefore, set by the difficulties, within this characteristic organization, which have called it forth. To separate these conflicts from the context in which they have arisen is assuredly bad method. If they lead us beyond the standpoint in which they developed, good; but we have no right to cut ourselves loose from this standpoint in any arbitrary fashion. Our aim should be to remodel it and not simply to negate it. It is in this respect that Berkeley's method must fall under our condemnation. Instead of an immanent criticism of the structure and meanings of experience, he offers an airy hypothesis of a theological character. We shall see that his criticism of Locke's notion of substance was valuable, although he drew the wrong conclusion from it. His sensationalism, the influence of Locke, and his dislike of naturalism amply account for the direction which his own construction took. He did not distinguish clearly enough between perception and knowledge and was, therefore, led to regard his critique of Natural Realism and of the Lockian notion of substance as completely covering all forms of realism. Time has brought a more adequate analysis of the structure and implications of experience and has at last made possible a more critical form of realism than any of those which Berkeley attacked.

Natural Realism as a description of the plain man's outlook on nature is beyond dispute. We have seen the idealist, Berkeley, testify unwillingly to its presence. It would be an easy matter to point out passages in Hume which also bear witness to it. (*Treatise*, p. 202, Selby-Bigge edition.) It may be that we have spent too much time in making its general tenets clear, since it is supposed to be the ordinary view of the world, dominant even among philosophers when they are not in a reflective mood. But the justification of Natural Realism as a theory of knowledge is another affair, and appeal to the experience of the ordinary man is beside the point. Many facts must be organized in relation to one another and many conflicts settled; much that common sense has left vague and in obscurity must be brought into the light and carefully examined. Accordingly, the task is one

for the trained thinker. It is a mere begging of the question to reassert the fact to be explained and to ignore the difficulties which arise.

It is not without bearing upon the problem to note how quickly Natural Realism was attacked by reflective thought. Were there no fundamental difficulties for it to face, this would surely not have occurred—unless, indeed, it be assumed that man's mind has a tendency to go astray. The relativism of Protagoras, for instance, was evidently a protest against the belief that objects are in themselves as we, the individuals or the race, perceive them.

Let us now examine the more weighty reasons which have led the majority of modern thinkers to assert that perception is a mediate process and not an event in which the thing is revealed as it is. Since our purpose is entirely disinterested, the method we shall adopt will be to hear what the critics of Natural Realism have to say in attack and what its defenders can say in defense. The result should at least be a realization of the problem involved in perception.

The difficulties which I wish to weigh concern, not realism as such, but Natural Realism. This point is important and should be marked, because idealists persuade themselves very often that they have refuted realism when they have only indicated inadequacies in the matrix out of which more critical realisms develop under the pressure of facts whose significance is realized by reflection. These inadequacies and contradictions concern (1) the fact that perception has conditions which do not appear in that which is immediately perceived; (2) the distinction between appearance and reality, a distinction which is held by the plain man along with the immediacy of perception, although the two cannot be reconciled; (3) the lack of concomitant variation between things and that which is actually perceived; (4) the difference between the perceptions of individuals; (5) the explanation of images, dream-life, and memory; (6) the synthetic or composite character of that which is perceived and the presence in it of inferential elements. We shall take up these topics in the foregoing order.

Perception has conditions which do not appear in that which

is immediately perceived. Can we reconcile the existence of these conditions with the plain man's view that the object reveals itself as it is in spite of intervening space? Perception seems to involve mediatory, causal processes, yet it claims to be immediate. Now the most natural division of these mediatory processes can be made with reference to the body. They are external to the body, or internal. Although these processes are continuous, it will be best to consider them separately.

External mediation of perception is quite evident in the case of seeing, of hearing, of smelling, and of the sense of temperature. Even common sense has long been aware of this fact, although the knowledge has not led it to alter its assumption that the object itself is perceived. Science has so completely studied the nature of these mediatory processes which lead to the stimulation of the sense-organs that skepticism of their existence seems misplaced. We must remember that science is itself based on perception and that its observations are more systematic than those of common life. The object appears to be one of the conditions of its own perception. As we shall see, this position gets us into spatial and temporal difficulties which are insoluble so long as we identify the object with that which is perceived. How, then, can that view be right which assumes that objects display themselves to the individual immediately and as they are? Let us remember that the plain man does not assert a duplication of object and corresponding percept, but believes that he is aware directly of the physical thing. Hume was alive to this fact, and his criticism of the "philosophical hypothesis" is based in large measure on it. This "philosophical hypothesis," it will be remembered, consists in the assumption that thing and percept are numerically different yet *resemble* each other. (*Cf. Treatise*, p. 202.)

The internal medium must also affect that which is perceived. What the observer perceives depends on the focalization of the eye and is to that extent its function. The part played by the retina and the nervous system must also be considered, so that, to the external conditions, these internal ones must be added. The defender of Natural Realism may

seek to discount the internal factors by a theory of passive transmission. But where is the scientific basis for such a view? Are not the optic nerve and brain as real as other physical things? If atmospheric conditions affect color, why should not they likewise? We do not notice their influence and are not able to discount it because they are always with us.

What the critical protagonist of Natural Realism seems forced to admit is that he sees a portion of the world selected by the position of his body and the focalization of his eyes and somehow brought to a focus by the brain. However, this is not what the plain man believes that he perceives. He would certainly not thank his defender if that individual told him that what he actually perceived were temporary "sets" in the brain. And I am sure that we could not blame common sense for rejecting this conclusion. It is diametrically opposed to the outlook on the world which it has built up. Far from being that which is perceived, the brain is a physical thing which is seldom, if ever, perceived by the mass of men. In truth, the majority of men hardly know of its existence; they secure their information of it indirectly and on the basis of other things. To affirm that men pass their time observing the condition caused in their brain by the rest of the physical world is hardly less palatable than idealism, and yet, to what other conclusion can we come if we persist in holding the view that, in perception, physical objects are immediately revealed? We begin with the belief that the physical object seen is outside the body and we end with the proof, if not the conviction, that what we do actually perceive immediately is the brain as it is affected by the outside world through the sense-organs and nerves. And such a conclusion has all the marks of a *reductio ad absurdum*. The physical world with which the plain man starts with such assurance disappears into the part of it with which he is least acquainted.

We may be told, however, that this conclusion does not at all follow unless it be assumed that the complex or object-in-its-setting which is immediately perceived be located in the brain. There is another possibility. The *terminus ad quem* of the complex may be the object, and not the brain. What we

perceive is the object in its surroundings, and the body enters as simply an important part of these surroundings. Unfortunately, science has shown that the object which common sense assumes is perceived is the *terminus a quo*, and not the *terminus ad quem*. Light passes from the object to the eye and takes time in its passage; the same is true of sound. We shall have occasion to show that this time-interval proves beyond doubt that the percept arises not in the object but at the brain. In line with this *direction* of the mediatory processes is the fact that the body is concerned in perception, not simply as a body, but as a body having sense-organs and a peculiar internal structure.¹ Other things influence the result because they reflect light or intercept it, and so on; but the perceiver's body contributes unique internal processes of mediation, and this internal structure seems to have no meaning unless the brain be the *terminus ad quem* of the total conditions of which the percept is a function. This way of escape does not seem open to the Natural Realist; we shall not, however, be dogmatic, but shall await confirmation from a study of the other difficulties which confront Natural Realism.

The distinction between a physical thing and its appearance to the individual is almost, if not quite, as primitive as the view that perception is an event in which the physical thing reveals itself; yet the two are hostile to each other. The distinction between the thing and its appearance meets us on every hand. When examined closely, it is found to be a popular recognition of the fact that objects are perceived differently at different times and that the difference is not assignable to the object. When I approach a house, what I perceive changes continuously; the house grows larger and I can see details which were not at first apparent. As I go away, the reverse series of changes occurs in what I perceive. Now I know that it took at least a year to build this house and that it has a stability which contradicts these changes. Moreover, I can apply a test through my ability to

¹ It is this *direction* of the stimulus which makes it impossible for me to accept the position, held by Bergson and in another form by the "New Realists," that the percept is a selected part of the physical world. I am unable to see that they have made clear the mechanism of the external reach of the "selective response" to which they appeal. Is this not the reappearance in disguise of the mythological doctrine of projection which they rightly condemn? The use of a simile like that of the searchlight is surely not sufficient.

communicate with other individuals. They inform me that the house did not change at all either while I was approaching or while I was departing. These motives reënforce those already present in my natural attitude toward physical things. Hence, instead of saying that things change, I assert that their appearance to me changes. But how can I reconcile this assertion with my other natural belief that, in perception, things reveal themselves as they are? When is the moment in my approach or my departure that the thing supplants the appearance, and the appearance the thing. Since I am aware of no such mysterious moment, I may well be skeptical of its existence. If it be stated that there is a standard position at which this occurs, I must ask if it is the same for all and, if not, why not? Upon investigation, I find that the standard position is rather arbitrary and is not founded upon any change from thing to appearance but upon practical advantages. The suspicion arises, as a consequence, that the individual perceives only the appearances of a thing and never the thing itself. When this suspicion meets the information which science has gathered in regard to the mediatory processes which are the conditions of perception, it is confirmed in its skepticism of Natural Realism.

Before we pass on to the other inadequacies in Natural Realism, let us consider a problem which arises at this point. Are *appearances* physical? If so, there are, at least *in potentia*, an infinite number of appearances for each physical thing. Strictly speaking, each thing when connected with an individual can beget a multitude of appearances, and this multitude can be multiplied by the number of individuals who perceive the object. Again, are these appearances temporary or permanent? If temporary and physical, we have the development of a dualism within the physical world. We can divide physical things into two classes: those which are relatively permanent and those which are transient. And these transient physical things seem not to possess any causal efficacy nor to be able to enter into spatial relations with the other class of physical things. We need, I think, hardly consider the possibility that appearances are physical and permanent. They cannot be in the space where they appear to be, for

that is already preëmpted by the primary physical thing. To hold that they exist outside the body is not possible unless we assume that two physical bodies can occupy the same space at the same time. To hold that they exist in the body seems impossible for the same reason. Appearances are thus rejected by the physical world. When we remember the facts which point to the belief that percepts are functions of the brain in dynamic relation to stimulating complexes, the suggestion comes to mind that appearances are these percepts and that they must, therefore, be connected with the brain. But how? They are usually larger than the brain, and, if physical, cannot be thought of as inside it, for that would involve a geometrical absurdity. Either the defender of Natural Realism must play fast and loose with his conception of the physical, or appearances cannot be physical. On the other hand, if appearances are not physical, do we not have new difficulties? Can that which is not physical be in space? And, if not in space, can it be connected with physical processes as their function?

Let us use the more common name for these appearances and call them percepts. By "percept" we shall mean only that which is immediately perceived by the individual and we shall not allow any psychological prejudice to creep into the term. Another expression which we shall use as synonymous with "percept" is "thing-experience." We shall also continue to assume with Natural Realism that there are things of which these percepts are somehow the appearances, and we shall not as yet inquire too curiously how we can know about these things if what we perceive directly are percepts. Evidently, Natural Realism is breaking down as regards its view that perception is an event in which things directly reveal themselves. That there *are* things we have not, however, found reason to doubt. Our arguments to show the inadequacy of Natural Realism are based upon their assumption.

The lack of concomitant variation between percepts and things likewise militates against the supposition that they are identical. Professor Stout formulates the principle thus: "If anything *X* exhibits variations which are not shared by *Y*, *X* and *Y* must be distinct existences." Now appearances

do vary when we have every reason to believe that the thing itself does not. This table appears to me oblong, while I know that it is square. All that is required in order to notice variations in the percept which we judge are not shared by the thing is a little training in introspection or, rather, the ability to distinguish between what we actually perceive and what we judge we ought to see. The relative proportions of the sides of objects as they appear to us in our percepts are decidedly different from the proportions as determined by measurement. Now this divergence can be explained by the laws of optics if we grant that the percept is not identical with the thing. The position of the body and its distance from the object to which we refer the percept, enter as the essential factors to account for this lack of concomitant variation. We are confirmed in this belief when we note that the perspective of the image on the ground-glass window of a camera is similar to that of our percept which we obtain by looking in the same direction as that in which the camera is pointed. Many other variations in regard to color, size, and position could be noted, but these will occur readily to the mind of the reader. We constantly have to discount our percepts by means of past experience in order not to be misled. As a rule, this correction comes to us so naturally that we are hardly conscious of it, and believe that we perceive what is really a combination of percept and judgment. Once our attention is called to this state of things, however, we can separate the part due to present perceptual factors and the part due to past experience. More and more, we are forced to refuse to identify thing and percept.

In our account of concomitant variation we have thus far paid attention mainly to spatial and qualitative differences between the thing and its appearance; but temporal variations are at least as interesting and even more suggestive. We are informed by astronomers, for example, that a star which we just now perceive may have been destroyed years ago, so long does it take for its light to travel to us through interstellar space. How, then, can we possibly identify our percept with the star itself or even with a selected part of it? And science is led to this calculation by experiences which cannot

otherwise be harmonized. Again, the relations between our percepts are very frequently not the same as the relations between the objective occurrences themselves. Thunder succeeds lightning for us, but we are certain that they have their birth at the same time. These differences in temporal order can, like those of spatial character, be accounted for easily by reference to the existence of mediatory processes in space which take a measurable time to occur. Always we come back to the position of the individual in relation to other things. Since Natural Realism cannot be skeptical in regard to the reality of spatial position, it is forced to testify against its own possibility and to furnish the basis for an explanation of that which occurs. The result is the suggestion of a compromise: things are there where we judge them to be, but we do not perceive them. Instead, we perceive the percepts causally connected with them, and these percepts are spatially and temporally more directly related to the brain than to the things with which we ordinarily identify them.

To get the results of our examination of the facts of mediation and variation at their lowest, we may say that we have shown the inadequacy of the plain man's view of perception as a revelation or intuition. If we still hold to things, we can no longer identify them with their appearances to us in perception. Furthermore, the belief is arising in us that the appearances of things, although physically mediated and conditioned, are not themselves physical.

The difference between the perceptions of individuals also points to the individual who perceives as an important factor in the determination of what is perceived. Yet Natural Realism in its pure form cannot admit this. What is perceived is for Natural Realism a thing, and not a function of various factors which achieve their pregnant focus in the individual. But we are convinced by now that the view of perception as an event in which the individual is essentially passive cannot be maintained. Thus the differences between the percepts of individuals only accentuate a conclusion which reflection forces upon us. There are many facts besides color blindness which lead us to suppose that things appear differently to

individuals. We shall have occasion to enumerate these in a later chapter and to consider their import; at present, a general indication is all that is necessary. For instance, the testimonies of witnesses in court in regard to an event of which they were spectators practically always conflict. In fact, too great agreement is looked upon by the judge as suspicious. These conflicts cannot be explained away as merely errors in memory. In truth, past experience and the interests of the individual seem to play a large part in the determination of the percept. Hence, we are forced to make the percept a function not only of physical conditions, but also of what, in contrast, are usually termed mental conditions. Accidental associations, even, enter as determinants.

When these personal elements in perception are first recognized, external nature seems to retreat into the distance. Like Narcissus, we see our own reflections and are not aware that they are our own. There can be no doubt that we must go beyond present physical stimuli to account for percepts. The past is somehow active, and the past is personal. We cannot account for many of the characteristics of our percepts by appeal to the ordinary, physical thing. In a parallelogram of forces, physics cannot introduce a moment which *was* but is no longer. The individual stands out ever more clearly as a most important precondition of the percept.

But, if there be a mental element in the percept, how can this be combined with what Natural Realism must regard as the physical core of the thing? We have already seen definite reasons to doubt the physical character of the appearances of things; this further difficulty will surely confirm us in the doubt. To combine what Natural Realism itself admits to be mental with the physical, and reach a product which appears to be a seamless unity, is certainly an impossible task. The inner sphere of consciousness asserts itself as a constitutive element in what at first claimed to be physical. And I do not see how the plain man's view of the physical—or the scientist's either, for that matter—can admit such a coalescence. Yet the presence of the mental factor is so undeniable that M. Bergson, for instance, speaks of the union of memory with the pure percept. Training and insight are necessary before the

pure percept can be recovered from the sediment deposited on it by the flow of the spirit. Truth, so far as the percept is concerned, lies behind us instead of before us. I fear that the antiquarian often constructs as well as recovers, and M. Bergson's outlook on inorganic nature shows evident signs of a knowledge of mathematical rationalism. We must, however, again remind ourselves that he does not start with the plain man's realism but with a realism strangely tintured with idealism. He, therefore, experiences less difficulty with the coalescence of the object and of memory elements than would otherwise be possible. If, however, there exist insuperable difficulties for the view that percepts are in things, as we have tried to show, his compromise does not seem to have an adequate basis.

How can Natural Realism account for the existence of images and of memory? If perception be merely an event in which the thing reveals itself, can it be supposed to leave a trace of its revelation behind? I do not see that such a position furnishes the basis for an explanation of memory or of the presence, under the individual's control, of images. If percepts are physical, are images so likewise? And where can they exist? Now, the plain man does not for a moment consider images to be physical. Here, then, is another inadequacy in his position of which he is not aware. He accepts images much as he accepts physical things and does not ask too curiously how they are causally or existentially related. It is the cognitive value of images to which attention is almost exclusively paid. So far as the question is asked in his hearing, he acquiesces in the view usually advanced that images are the effects of the action of things upon the mind. But this involves the acceptance of mediatory processes, as we have already indicated, and turns us in the direction of no longer considering perception as a mere event in which the individual is passive. There is, moreover, no reason to assume—and again, common sense does not assume—that images and memories are dimmer presences when objects are far off. They are too much under our control and too variable. Berkeley, who claimed to represent the plain man, saw this difference and emphasized it as a basic principle in his philosophy. He does not, however, give a

satisfactory explanation of the existence of images; instead, he takes them for granted. But he can appeal to the continuity of the spirit as a basis for memory. So long as perception is merely an event, and the thing, physical, this cannot be done. Again, if we suppose images to be under the direct control of physical things as some defenders of Natural Realism do, how can we harmonize this with the well-known laws of association, retention, and reproduction?

Again, if images are looked upon as physical creations which linger after the object to which they correspond has disappeared from our horizon and even has ceased to exist, they must be subject to physical laws. Yet it seems absurd to apply such laws as those of gravitation to them. Instead, psychological laws describe their behavior and control. They are essentially private and, in this respect, differ from primary physical things. Furthermore, imagination is productive as well as reproductive: we possess and create synthetic objects which have no counterpart in nature. Do images, like chemical elements combine to produce something new? I take it to be obvious that common sense and psychology have adopted the simpler classification when they have adjudged images to be mental and personal. The query which then remains as a stumbling-block to Natural Realism when it becomes reflective is, How can they be explained unless a new view of perception be developed?

Now, common sense accepts results and does not, as a rule, ask how they are possible. For instance, perception is somehow clearer each time that we see an object and the more that we know about it—and that is all. Again, the plain man gets along very nicely with the assumption that he can somehow pass back and forth between things and ideas, between the world out there and thoughts referred more or less vaguely to the body. Dualism there is, but a dualism with no terrors. These factors are somehow present together, and they can be attended to simultaneously or successively. Their coexistence, and the fact that the attention can pass from one sphere to the other, does not itself prove that they are of one fundamental kind; rather, it suggests what other difficulties have forced us to assume. But togetherness is not

the whole story; these types melt into one another and merge their being. Ideas join with that which is perceived, and the new body which arises from their conjugation faces the individual with all the old pride of independence. Such effrontery on the part of bodies which we know to be hybrids arouses in us grave doubts of the primitive character of the rest. And this brings us to the last contradiction which confronts Natural Realism.

Percepts show the results of education and inference; they are constructs instead of passive intuitions. They are modifiable in new situations and thus keep in touch with things under whose control they always remain to some extent; but they have a history, and the time-factor is necessary for their comprehension, as it would not be were they intuitions. The sensational nucleus, namely, that which can be accounted for largely by the immediate relation of the individual to the physical complex outside the body, is often—one might venture to say always for the adult—a minimum. The percept may even be contrary to what should be seen, granted—what Natural Realism admits—the permanence of things. It is because of the silent and unobtrusive presence of these inferential elements in the percept that we do not notice the different ways in which the same thing appears to us at different times and from different positions. The inferential elements are the true levelers in perception and thrust the discordant aspects into the background where only the trained mental eye of the psychologist can discern them. To see things as they would appear, could the inferential elements themselves be discounted, is the task also of the painter. What strange stories he relates of the “real” appearances of landscapes or of the hurrying throng moving through the narrow city streets lighted by sputtering gas jets! He removes the pressure towards uniformity and definiteness exerted by past experience and presents to us what he asserts we could see were our mental vision not cramped and conventionalized. These facts prove beyond reasonable doubt that perception cannot be an *actus purus* or a mere unmediated event. The plain man’s immediacy breaks down before the analysis which coördinated reflection on the facts develops. The only

rejoinder *which the defender of Natural Realism can offer to this and the other conflicts which arise to overwhelm it is that the internal medium is more effective than is usually supposed. To admit this is, however, to give up the immediacy upon which Natural Realism prides itself. Even though the percept be physical, it cannot be identified with the object which only partly conditions it.

It may be well to attack the immediacy of perception from another angle in order to discredit it completely; otherwise, some unacknowledged belief may linger to act as traitor to the movement of the argument. Suppose it to be asserted that an inner core of the percept can be rescued from its swathing of mental factors and be taken as a part or aspect of the physical thing, what shall we reply to such an assertion? We need only repeat the arguments in regard to spatial and temporal differences, mediation, lack of concomitant variation, and individual divergences, which we have examined at length, and add to these the further fact that the physical object as we believe it to exist and as the plain man believes it to exist cannot be reconstructed from a physical piecing together of the percepts. It takes but little reflection to realize that, if percepts are functions of the position of the individual, they cannot be put together to form the object without taking this perspective into account. The percepts which I obtain by moving around a house would not fit together like blocks to form the house. They are uncombinable in this mechanical sense; and since, if they are physical, a spatial combination is the only one conceivable, we can infer that they are not in any literal sense parts of the object. Again, as we move from a house, we obtain a very large number of successive percepts of the same side of the house, and these differ from one another and are also uncombinable. No object in the world could be identical with them and harmonize their fundamental differences in contour, size, internal relations, and shades of color. The percept hovers between the individual and the thing and can be identified with neither; it seems to be in a world of its own which has other laws than those which physical things obey. For this reason it is called *mental*. Let us see whether this classification lessens the difficulties. If percepts are

mental, they are not spatially coexistent, nor are they permanent. Hence, all question of a literal combination drops. If organization there be, it is of that non-physical kind which we called standardization, and which is historical and not spatial. Questions there are a-plenty in regard to the nature and laws of this temporal mediation, but they are not flatly absurd, as are those which confront the union of physical percepts. Experience is cumulative and organic, and synthesis in the mental world admits adaptations which the physical could not permit.

Our study of the inadequacies and conflicts which confront Natural Realism is completed. While the points have been taken up only in outline, their cumulative effect is, I believe, irresistible. Perception cannot be an event in which physical things are present to the individual as they are. That which is present to the individual is a function of many conditions and must be considered mental¹ and not physical. What, then, shall we do? Because the theory of perception implicit in Natural Realism is found to be erroneous, must we give up the realistic distinctions and meanings which accompany it? When we come to examine our results from this standpoint, we find that the physical thing, while no longer present in perception, is assumed as one of the conditions of that which is perceived. But that which conditions must be as real as that which is conditioned. The physical thing is still there; if it is not perceived, how is it known? We have in no sense freed ourselves from the realistic distinctions and meanings. The question which we must seriously ask ourselves is this: Can a theory of knowledge be achieved which will do justice to these realistic distinctions and meanings and yet not be open to the objections which have proved fatal to Natural Realism? Evidently, a theory of *knowledge* and not merely of *perception* would be required to accomplish this result. In some sense, perception would have to be subordinate to knowledge. Too often the bankruptcy of Natural Realism has been regarded as merely the opportunity of idealism. This attitude has prevented systematic and persevering attempts at the formation of a theory of knowledge which would admit the

¹ To clear up the various meanings of this term will be an important part of our task.

mental nature of the percept and yet maintain that knowledge uses the percept for its own greater purposes. The task which yet remains in our critical examination of Natural Realism is to consider the modifications in it introduced by science. This inquiry will be found to further our larger design.

CHAPTER II

NATURAL REALISM AND SCIENCE

SCIENCE, so long as it is not influenced by any philosophy save its own half-conscious sort, does not differ markedly in its outlook from common sense. It is for this reason that the beginner in science is unaware of any revolutionary change in his attitude toward nature. The ideal of knowledge is higher, the methods used are more exact, the information obtained fuller, the purpose more complex and impersonal; but, when all is said, the object of reference and our attitude toward it have not changed. We still regard nature as common and as independent of our consciousness of it.

When the science whose study is taken up is concrete, the passage to it from the attitude and distinctions of common sense is most markedly without a break. Scarcely any readjustment of outlook is necessary; the material is richer and new facts and principles are added, but the familiar context is developed rather than revolutionized. Common sense has its explanations and theories, but these are distanced by the patient investigations of science, and their inadequacies are pointed out. Nature is put under a microscope and we are prepared to see its appearance transformed. We expect to discover relations and processes more fundamental than those which reveal themselves to the naked eye. Still, this analysis goes on within the outlines of what remains to us a world perceivable by all. When the sciences studied are more abstract,—physics and chemistry for example,—the customary view of nature tends to undergo certain very interesting modifications. The basic meanings which characterize nature persist—things are still looked upon as common and independent; but nature itself is stripped of many of its qualities and presents a new appearance to the mental eye. Strictly speaking, it has become more a correlate of conception than of perception. It is extremely interesting, in the case of students, to observe the gradual way in which the secondary qualities

move from nature. Long after they have understood the readjustment which seeks to account for the secondary qualities, like color and sound and fragrance, as sensation-qualities causally connected with disturbances in the air or the ether, or with chemical processes set up in the nerves, the real world remains colored and sonorous to them. Atoms and electrons and ether vibrations differ too radically from the world as they have been accustomed to perceive and to conceive it to have power to substitute themselves at once for the everyday view. The new outlook does not readily acquire a reality-feeling. The mind experiences a sort of homesickness in the presence of this new nature. It is because of this temporary alienness that the modifications in Natural Realism introduced by the physical sciences are not more acutely realized. However, even through these changes to which the more abstract sciences have been led from motives and problems which have arisen inevitably in their growth, the skeleton of Natural Realism persists. Nature is still bathed in the meanings of independence, commonness, perdurableness and causal relation. Moreover, the attitude of intuition still lingers; the scientist is often nearly as outward-looking as the plain man.

Let us glance at the distinctions common to science and enlightened common sense. These may be stated as follows: (1) There are two fields of experience, the external, or physical, and the inner, or psychical. (2) The external world is composed of things and processes in space and time. (3) These processes and things are describable and behave according to knowable laws. (4) The external world is known by the plurality of minds which constitute the inner, or psychical, world. (5) These minds are joined to bodies which are parts of the external world.

These distinctions which form the framework of scientific realism are evidently vague and only roughly worked out as they stand. They are like glimpses of a mountainous country seen through a wind-broken mist. The *how* of the knowledge of the physical realm possessed by these minds is not clear. Undoubtedly, the old intuitionism of common sense lingers; *the fact of knowledge dominates over its nature and means of attainment*. For instance, one writer on

science, who is also a scientist of some standing, speaks of the senses as channels through which information is somehow poured.

Again, there are usually rather unclear ideas as to what laws of nature are. Are they descriptions or governing forces? Thus we could continue to point out problems, taking these distinctions as our text, and find that neither common sense nor science has very definite notions of its assumptions. But I do not wish to leave the impression that science is on the same level as common sense; its ideas are much more developed and it has worked out points of view and made analyses which the plain man cannot understand. Probably the science of mechanics illustrates this divergence better than the more concrete sciences which keep nearer to perception. Let us briefly examine the history and the axioms of mechanics in order to bring out the advance of scientific analysis over that of common sense.

Everyone admits to-day that geometry had its origin in experience. Many of the propositions which geometers prove deductively on the basis of certain axioms and postulates were discovered empirically. It was taught at Babylon that the side of a regular hexagon is equal to the radius of the circle in which it is inscribed. This was not proved in the strict mathematical sense until the Greeks rationalized geometry; it was merely found to be the case by observation and measurement. Now, geometry became a rational science long before mechanics. The reason for this is interesting and concerns our problem. The axioms of geometry arise from mankind's experience with solids. Distances and contours are passive and measurable and recur constantly in our perception of the external world. Spatial relations, because of their universality and definiteness, crystallize out from the qualitative manifold in which they are embedded. Soon, under the guidance of abstraction and idealization, they become the framework, or skeleton, of our conception of the physical universe. There is no break with perception, and, consequently, the axioms of geometry which represent the most universal characteristics of this resultant space seem to have a basis of an almost instinctive nature. The axioms of mechanics, on the other

hand, as M. Painlevé points out, gave rise to the most impassioned controversies as late as two and a half centuries ago, are unknown to the mass of men even to-day, and are often wrongly understood by those who use them. Mechanics deals mainly with movement, and movement is not easily seized and analyzed. "Far from imposing themselves on our senses as the properties of solids do, the fundamental laws of movements could be reached only by an already developed technique, experimental and mathematical in character." (Painlevé, *De la Methode dans les Sciences*, p. 369.) The controversy between the scholastics and the disciples of Copernicus illustrates very well the conceptual level upon which modern mechanics is founded. The scholastics held to the principle of inertia. They argued that any material element at an infinite distance from other elements is necessarily at rest. The Copernicans, on the contrary, maintained that such an element would keep its velocity. Another point of importance is the fact that mechanics seeks to work out a system of absolute references and standards of measurements to enable it to overcome the relativity of perception. The result is a reordering of immediate experience which the plain man can by no means follow. Any teacher of physics will inform one how hard it is to get the students to understand the definitions and distinctions which are so basic in his science. Thus science makes definite advances over common sense while it retains the realistic structure characteristic of man's natural outlook upon his world.

When, however, science turns back on itself and begins to reflect on the methods by which its knowledge of the physical world is achieved, it is forced to reject the intuitionism of Natural Realism. The part played by the mind and the indirect way in which knowledge is gradually built up awaken skepticism, and the difficulties encountered in the solution of problems reënforce the awakened doubt of the passive view of cognition held by common sense. Science itself seldom allows this skepticism to bulk too large; its interest is too positive and controlled too immediately by its material and its traditions to permit the problem of knowledge

to deflect its attention. Individual scientists are, however, moved by these critical motives to react drastically toward the simpler theories of cognition which they inherit from Natural Realism. Not infrequently, the reaction is so violent as to carry the reflective scientist to idealism of a sensation-alistic sort, but usually a compromise position is taken which seeks to retain as much as possible of the realistic basis from which science has grown. Chief among the distinctions which make this working compromise effective are those between the primary and the secondary qualities, and between sensations, on the one hand, and objective bodies and processes in space and time, on the other hand. In the preceding chapter, we had occasion to note how this latter distinction is forced upon us. We saw that the question which is raised by it is this: If percepts cannot be identified with physical bodies, how can knowledge of these be obtained? Now, science does not doubt that it possesses knowledge, but it is aware that it has attained unto this knowledge through effort and by adoption of methods of experiment and analysis. Why these methods enable us to secure knowledge it is not prepared to say, nor is it certain of the limits and extent of its knowledge. Engrossed in particular problems and pressed onward by its technique and practical success, it allows the problems of knowledge to remain in the background, so to speak, of its consciousness. The result is a *modus vivendi* in which the reflective and the positive tendencies are free to develop themselves without let or hindrance from each other. Physical science organizes its facts in space and time by means of impersonal principles, while psychology and logic seek to show that the world is in some sense a construct. This antagonism which works beneath the surface of experience and which can not be assuaged, except momentarily, by the compromise referred to above, is due to the inadequate adjustment of the psychological and logical motives in experience to the realistic meanings and impersonal organization built up in science.

Under the pressure of the facts, then, Natural Realism gives place to a more critical form which may be designated scientific realism. Science commences, as we have noted, in full

agreement with the outlook of common sense. Things are obviously objective and independent of the individual's awareness of them. Investigation, however, begins to indicate that the qualities of things are not on the same level. Certain attributes are functions of complex conditions which can be stated in terms of other attributes which seem basic. These aspects are measurable, and secure an independence of perceptual perspective through the direct or indirect application of standard units to the objects or processes under observation. The influence of the position of the observer is thus eliminated. By this procedure, commonness and independence are again recovered. The thing is standardized and can be contrasted with the variety of the personal experiences of it. A large part of the technique of the laboratory is concerned with this problem of measurement; instrument after instrument is evolved to make the purely perceptual element as insignificant as possible. What are cathetometers and micrometers but instruments for the minimizing of perception? All that is needed is the identification of a mark. Contrast the result thus obtained with the variation in the size of a percept as we approach the thing to which we refer it. Now, we have in these two classes of attributes which require different techniques the historical division into primary and secondary qualities. This is not the place to give in detail all the reasons which have led to this distinction; but a brief summary of some of the motives will throw light upon the character of the movement in science towards a restatement of the physical. The point for us to note is the attempt to go beyond perceptual observation with its perspective and to make perception subordinate to the determination of what science calls facts.

The primary dimensions of things and processes, such as extension, movement, mass and energy, can be used for the purposes of exact description and explanation because they are measurable and lend themselves to mathematical and physical analysis. For this reason, results can be obtained which are not variable from moment to moment as is the case with the secondary qualities. If these aspects of an object change, the changes can be reduced to law and referred to other changes of like character. In

other words, the primary aspects of things form a system of a closed character in which changes can be partially calculated beforehand. The color, the taste, the odor of an object cannot develop this systematic character; a relation to the percipient always dominates them; they cannot free themselves from what we have called perceptual perspective. In other words, the secondary qualities are relative to the individual, while the primary qualities can be freed from this relativity. But other differences supplement those already advanced. The primary aspects of things are common to all physical things under all conditions thus far known; this universality is not true of the secondary characteristics. These are more capricious and are frequently absent altogether. There are substances which are odorless and others which are colorless. Objects, when struck, may give off sound, but they are not always emitting sound. They are, however, always extensive. Thus the discreteness of the secondary qualities, their lack of continuity, their relativity, their occasional absences, all make them cancel out when a general outlook on the physical world is sought. They are relegated to the percept side and related to the individual as a percipient. This justifiable tendency to their elimination is strengthened by two other motives. First, they can in part be explained and predicted as mathematically expressed functions of the primary qualities as long as the organism remains a constant; and, secondly, the activities in nature can be stated only in terms of the primary qualities. It seems difficult to conceive, for instance, how the odor or color of one physical object can affect another object. Thus the motives toward a separation of the aspects of things into those which are relative to the percipient and are perceptual and those which are absolute and objective reënforce each other. Even from this brief treatment of the distinction between the primary and the secondary qualities, it is clear that the former have gradually developed into meanings connected with the necessary structure and behavior of things, whereas the latter, remaining passive and relative, have kept nearer to their primitive, sensational character. The reason for this seems grounded deep in the nature of experience; it must have an

epistemological significance. Science meets the motives which effectually challenge Natural Realism in this way and retains the thing in contrast to the percept. The result is what we have called scientific realism, which is a purified Natural Realism. Such are the general considerations which have led to the relegation of the secondary qualities to the personal, perceptual side, as effects on the conscious individual of real processes at work in the physical world. Whether these real processes can be adequately stated in terms of mass, movement, and energy is a further question which we shall not take up at present.

After the separation of the primary from the secondary qualities has been achieved by science as a result of its technique and its problems, the way is prepared for a marked change in man's outlook on the physical world. Perception is gradually displaced by conception, much as, in petrification, the wood fibre is displaced by minerals. Theoretically, atoms and molecules are perceivable, but, were they perceived, reason must remove from them their veil of color even were it the drabest grey. This can be done only because we no longer picture them, but, instead, think them. They are objects of conception rather than of perception. The skeleton of Natural Realism remains, while the content has undergone a fundamental alteration. It is the gradual character of this change, which is not fully realized, that enables the matter of the scientist to be at once semi-perceptual and semi-conceptual. So long as science is absorbed in its particular problems and in its method and technique, the problem of knowledge is, we have seen, quiescent. The view of perception held by common sense lingers in spite of the corrections which science is forced to make in connection with that which is perceived. Hence, atoms are thought of as perceivable. I doubt not that electrons are likewise held to be susceptible of being perceived were our sense-organs fit for the task. To be real is to be susceptible of being perceived or of affecting that which is susceptible of being perceived. What does this assertion signify? If we are forced to distinguish between thing and percept, as science acknowledges and as our critique of Natural Realism led us to grant,

what does the expression, "susceptible of being perceived," mean? The only meaning I can assign to it is the following: Things and processes can be *known* but they can be known only on the foundation of perception. A percept and a physical thing are not the same, but the latter can be known to the degree it is known in science only because it conditions percepts. Now science is aware of this principle, but only in a confused way because of its lack of reflective interest in the problem of knowledge.¹ Strictly speaking, then, atoms are not perceivable nor are physical things perceivable; they could not present themselves to perception as an event. Instead, they are known by means of percepts which they condition. The error of which the scientific investigator is guilty is the continuance of the use of the term perception as synonymous with knowledge, after his subject-matter has outgrown the outlook implied by the term.

Let us examine Berkeley's refutation of the cognitive significance of the distinction between primary and secondary qualities from the present standpoint. It must be remembered that, because we defend the distinction, it does not follow that we defend the view of matter held by Locke. The position that the primary qualities inhere in an inert substance is surely quite separable from the belief that science can gain information about physical things and that this information is not penetrated by the relativity to the human organism characteristic of percepts. With this suggestion in mind, let us analyze the arguments advanced by Berkeley.

The first argument of importance concerns the impossibility of separating, even in thought, the primary qualities² from the secondary. "But I desire anyone to reflect and try whether he can, by any abstraction of thought, conceive the extension and motion of a body without all other sensible qualities. For my own part, I see evidently that it is not in

¹ The term, knowledge, is ambiguous since it covers both the system of propositions accepted by the mind and the fact that these propositions are regarded as somehow giving knowledge about a real world independent of the mind. No one doubts that we have knowledge in the first sense.

² The critical realist does not hold that extension is a thing which exists outside the mind; instead, he maintains that the physical world is extended, *i.e.*, measurable. Extension and the other primary qualities are for science really categories characteristic of our *knowledge about* nature, not qualities inherent in nature in the Lockian sense or possibly perceivable aspects of the physical world. Berkeley, as usual, is right in what he denies, not in what he affirms. I shall have more to say in regard to this point in a forthcoming work on the Categories.

my power to frame an idea of a body extended and moving, but I must withal give it some color or other sensible quality which is acknowledged to exist only in the mind. (*Principles*, sec. 10.) Now, when Berkeley speaks of framing an idea, he means an image or picture. The task he sets for us to accomplish is like that of having a percept which has no secondary qualities. This I acknowledge to be impossible. All the good visualizers in my classes have always shaken their heads at any attempt to separate the two classes of properties and have agreed with Berkeley. And I feel sure that this agreement rests upon the same grounds as the original assertion. But the space and motion which science measures are not perceptual space and perceptual motion. The scientist ascertains *the fact that* a wave length is such a part of a millimeter. The information conveyed can be expressed only in number symbols, and any attempt to visualize the extension is beside the point. We have to do here with concepts whose significance cannot be separated from the system of units employed. And I feel sure that, when I am told that a body has a certain mass and a certain extension, I have no idea of color connected with these quantitative facts; yet I understand what is meant. Even were I concrete in my imagery and tended to see a body of a definite size and extent and possessed of a color, I am sure that I should regard this imagery as inadequate to express what I had in mind. In short, science deals, not with sensible qualities, but with quantities and causal relations; and these are propositions of a complex character understood only by those trained in mathematics and physical measurements. The symbols for these are verbal or numerical, and images of any other kind are adventitious. It is only when the primary dimensions of physical bodies are thought of in terms of perceptual or sensible qualities that the argument of Berkeley is relevant. The point which I wish to make can, perhaps, be best brought out by contrast with what I do not wish to maintain. The attitude of science toward the primary qualities must not be identified with materialism. This seems to be the feature of the problem which Mr. Bradley has most in mind. "That doctrine [materialism] of course holds that the extended can

be actual entirely apart from every other quality. But extension is never so given. If it is visual, it must be colored; and if it is tactual, or acquired in the various other ways which may fall under the head of the "muscular sense," then it is never free from sensations, coming from the skin, or the joints, or the muscles, or, as some would like to add, from a central source. (*Appearance and Reality*, p. 17.) All this is very true, but irrelevant to the present problem; and its irrelevance is what I wish to show. When the scientist asserts that the moon is two hundred and thirty eight thousand eight hundred and forty miles from the earth, he does not seek to consider a sensible quality drawn from eye-movement or joint-sensation as occupying this space. He asserts a fact revealed by his astronomical technique, and this fact has definite meaning. He is stating facts about things which seem to be free from the relativity which overwhelms percepts and their constituents. He must perceive in order to measure, but what he perceives is merely a sign for a conceptual interpretation. Of course, this interpretation is founded upon certain postulates and upon definite theories and is no stronger than they are. We shall have occasion to examine this mediate character of a scientific fact later; but at present our main task is to get a clear idea of the objectivity of the dimensions in terms of which science states its *knowledge about* physical things—and by objectivity I mean their freedom from perceptual perspective.

Our conclusion in regard to the first argument raised by Berkeley throws light upon another objection of his. He condemns Locke's claim that the primary qualities are patterns of things "which exist without the mind, in an unthinking substance which they call Matter." So, certainly, would I condemn such a view. To have knowledge about the physical world does not imply the possession of patterns of entities existing outside the mind. Science makes no such claim, and the distinction between primary and secondary qualities is not based on such a hope. For this reason, it is, perhaps, better to employ the term "dimensions" in place of qualities. What the reach and nature of the knowledge achieved by science is must be investigated in due time. This much we

may say, however, that the naïve views found in Locke's version are gone forever.

Another argument urged by Berkeley is interesting in this connection. It is the argument from what I have designated perceptual perspective. "Again, *great* and *small*, *swift* and *slow*, are allowed to exist nowhere without the mind, being entirely relative, and changing as the frame or position of the organ of sense varies. The extension therefore which exists without the mind is neither great nor small, the motion neither swift nor slow, that is, they are nothing at all" (sec. 11). Evidently Berkeley argues from the relativity of perception to the impossibility of our knowledge about motions or extensions not relative to the individual yet possessed of degrees. And so long as we keep within perception as such, this argument is unanswerable. The size which we assign to an object is simply a standard size and is relative to a (more or less arbitrarily adopted) standard distance. The motives which lead me to consider an object a certain size are essentially practical. The perceptual size of my typewriter, for instance, is determined by my position as I use it. But what reason of a theoretical nature have I to advance for a belief that this standard perceptual size is the real size? The typewriter cannot, however, be all sizes at once; hence, we are forced to the conclusion that perceptual extent is purely relative. How, then, does science elude the difficulty? As we have seen, it eludes it by measurement in terms of standard units. Science does not trust to perception when it wishes to determine the relative sizes of physical things; it resorts to the *superposition*, direct or indirect, of objects upon one another. And an intimate knowledge of physical measurements and the technique they involve is necessary to an appreciation of how different the results thus obtained are from those of mere unaided perception. The result is elimination of the perceptual perspective or the reference to the position of the percipient, upon which Berkeley lays so much stress. "Suppose this to be admitted," the idealist replies, "still the interpretation of the unit of measurement must be in terms of perception." To use a simple illustration which can yet be regarded as typical of more complex

measurements, I measure a tree, which has fallen, by means of a yardstick. In this way, I obtain a knowledge of the length of the tree in terms of the unit; but the unit itself is given to me in perception. To measure it in terms of a smaller unit does not help me to escape the difficulty, since this smaller unit must itself be given in perception, and so on. Thus my estimate of the real dimensions of things is finally founded upon my perceptual experience. And I see no way of avoiding this foundation. Science can give us ratios relative to units, not a stark vision of intrinsic and absolute dimensions. The point which Berkeley does not note is important nevertheless. These ratios are not relative to the individual percipient, but relative to the unit of measurement. We can assert that one thing is greater than another by a certain proportion, and that one motion is swifter than another. The fact that the individual's interpretation of these fixed ratios is necessarily in terms of his standardized idea of the unit does not impugn the independence of the ratios as such. There are different kinds of relativities, and these must not be confused.

The conclusion which can be drawn from this critical analysis of the arguments advanced by Berkeley against the separation of the primary and secondary qualities may be stated thus. The objectivity assigned to the so-called primary qualities of things, as these are determined by measurement, is that of knowledge. The knowledge thus obtained is in terms of conceptual ratios and does not signify the reification of sensible qualities, such as perceptual extent, or the view that such sensible qualities are patterns of entities existent in nature. In this way, science works beyond the intuitionism of Natural Realism so far as it is able, and gains knowledge about things. But what this knowledge is and its exact reach are seldom, if ever, completely clear to it. Berkeley's argument, like that of Bradley, is valid only against a false realism.

Once on this road, science pushes onward to a conceptual interpretation of observations in terms of quantities, ratios, definitions, relations, and laws. Laws are statements in as definite form as possible of supposedly invariable relations.

In the abstracter sciences, those, namely, of inorganic nature, these statements are in mathematical form and express relations between quantities. The quantities are themselves measurable aspects of physical processes expressed in units which are arbitrary *qua* units, but otherwise natural as selected portions of some primary dimension. Given this basis, science works from observation to theory and from theory to observation and formulates its results as concisely as possible. The discovery of causal connections, which accompanies the quantitative description of the facts, carries science nearer to its goal. What is this goal? Were science agreed in regard to this point, our investigation would be indeed easier.

Especially in the abstracter sciences, nature is now regarded as a series of processes rather than as a collection of things. Things are no doubt still essential elements in many of the events which occur in the external world, but detailed analysis has bereft them of their primacy. They are now seen in a context of relations which common sense failed to note. With things, if I am not mistaken, has gone in large part the older conception of the primary qualities. Impenetrability, for example, is no longer considered an ultimate and unanalyzable characteristic of the physically real. In its place, we have energy relations and the concept of conservation. The original attribute was too passive and sensational, it could not be applied in an explanatory way to the detailed behavior of things and processes; it could not be treated by mathematics—which, perhaps, amounts to the same thing. For these reasons, it has lost its former status and is now treated as derived. This change in attitude toward a primary quality, once in high favor, illustrates the work of conceptual reconstruction performed by science in its effort to become objective. In ever greater degree, the passive attitude of common sense with its uncritical mixture of perception and conception and its inability to analyze changes and relations is replaced by an active rationalism which seeks to know what occurs in nature as fully as it can be known. When this level is attained, the primary qualities as used by science are no longer sensations, as Berkeley held them to be, but categories tested by their organizing value.

Before this further level is reached, however, the deviation of science from common sense becomes so apparent that the problem of the nature and reference of the knowledge gained by science is unavoidably raised. The results achieved are so indirect and so obviously depend on the constructive activity of the human mind working with inductive and deductive methods and guided in its observations and experiments by general ideas, that the rather passive, intuitionistic view from which, as we have seen, science arises, refuses longer to stand sponsor for them. The deeply rooted feeling-reactions which vitalize physical things for the plain man and endow them with a reality-feeling, decline to bolster up what are seemingly creations of the mind. *Things* I know; but what are mass and energy and ether?—thus would the plain man state his position. Consequently, reflection arises and the cognitive import of science becomes matter for investigation and often for dispute. The situation which ensues is more complex and perplexing than is usually realized. The scientist who seeks to solve it is facing a difficult question; none other, in fact, than the nature and reference of the knowledge attained by science. If he remain a natural realist, he must ask himself how the concepts by means of which he organizes his data are moored to the things he perceives. And the question, once asked, gives its own negative answer. If the scientist hold to realism, it cannot be Natural Realism. This conclusion, which follows from the analysis we have so far made of science, reënforces the result arrived at in the first chapter. Thus the choice before science is no longer simple; the framework of experience has ceased to be distinct, and the old meanings of Natural Realism, once challenged as to their validity and applicability, lose their assurance. Which, indeed, are real—laws, concepts, things, or facts?

Several positions can be and actually have been taken by scientists when they become conscious of the problem of knowledge; and all these are instructive. It will repay us to glance at these positions briefly.

In many cases, there has been a complete reaction against Natural Realism and the adoption of what is, to all intents, a sensationalistic idealism. Science, for this outlook, is nothing

more than a more accurate and extended description of man's perceptual experience. It is a conceptual summary of perceptual facts, richer and more exact than that furnished by common sense. It pays particular attention to invariable sequences in experience and analyzes them out wherever possible. By this means, it makes the prediction of future events feasible, especially as it lays stress upon exact quantitative relations which have held in the past. Karl Pearson and Ernst Mach are probably the two best representatives of this view. There is a divergence in their positions, however, which is interesting for our problem. It is necessary, for this reason, to discuss them separately yet with this comparison in mind.

Pearson definitely limits the field of science to constructs which are the union of sense-impressions with associated, stored impressions. "The outer world is for science a world of sensations, and sensation is known to us only as sense-impression." The ego is shut up within the brain terminals of the sensory nerves, and is thus limited in its experience to the sense-impressions which flow in from that "outside world." These the scientist analyzes, classifies, and reasons about, but he can know nothing about the nature of the "things-in-themselves" which may exist at the other end of the brain terminals. As many other thinkers have pointed out, Pearson assumes constantly the real existence of the physical world in order to account for sense-impressions. "The same type of physical organ receives the same sense-impressions and forms the same constructs." (*Grammar of Science*, p. 47, third edition.) The result is a contradiction; what right have we to assume physical organs of the same type if our knowledge is limited to sense-impressions? Evidently, we have in the foregoing assertion the proof of the stubborn persistence of Natural Realism within the shifting of view-point due to reflection. Pearson is often called a sensationalist, but such a characterization is hardly just. He distinctly states that he uses the word "sensation" instead of sense-impression, "to express our ignorance, our absolute agnosticism, as to whether sense-impressions are 'produced' by unknowable things-in-themselves, or whether behind them may not be something of

their own nature" (p. 68). Thus realism lurks behind his empiricism and renders it ill at ease. His frequent outbursts against metaphysics are but symptomatic of this lack of assurance.

The position adopted by Ernst Mach is even more interesting than that of Pearson, because it attempts to account for the distinction between the external and the inner world in terms of relations between elements which he calls sensations. "Let those complexes of colors, sounds, and so forth, commonly called bodies, be designated, for the sake of simplicity, ABC ; the complex, known as our own body, which constitutes a part of the former, may be called KLM ; the complex composed of volitions, memory-images, and the rest, we shall represent by abc . Usually, now, the complex $abc KLM$, as making up the ego, is opposed to the complex ABC , as making up the world of substance; sometimes, also, abc is viewed as ego, and $KLM ABC$ as world of substance. [This is essentially a description of Natural Realism.] Now, at first blush, ABC appear independent of the ego, and opposed to it as a separate existence. But this independence is only relative, and gives way upon closer inspection. Precisely viewed, however, it appears that the group ABC is *always* co-determined by KLM . A cube of wood when seen close at hand looks large; when at a distance, small; it looks different with the right eye from what it does with the left. But where, now, is that *same* body, which to the appearance is so *different*? All that can be said is, that with different KLM different ABC are associated." (Mach, *The Analysis of the Sensations*, pp. 8-9.) In other words, Mach argues from the facts of perceptual perspective to an empiricism of a Humean character. If we imagine physical things back of these percepts, they are "deprived of their entire sensory contents, and converted into mere mental symbols. The assertion is correct, then, that the world consists only of our sensations." But these sensations are not psychical in their own nature; they are, as it were, neutral. When we consider the reciprocal relations of the elements of the complex ABC without regarding KLM (our body), we deal with what we call the external world. All physical investigations are of this sort.

But the elements $A B C$ are connected not only with one another, but also with $K L M$. "To this extent, and to this extent *only*, do we call $A B C$ *sensations*, and regard $A B C$ as belonging to the ego" (p. 14). The value of this analysis must be recognized, and it is especially interesting because made by a physicist. It is, however, incomplete. The physicist not only disregards the complex, $K L M$, but seeks to abstract from those aspects of $A B C$ which are inseparably connected with $K L M$ and to correct the perspective due to the position of $K L M$. But we have investigated the problem which results sufficiently in the first part of the present chapter and in the first chapter. We saw, for instance, that it is not the body as such from which the scientist wishes to abstract, but the sense-organs and the nervous system as somehow the basis for percepts. The scientist believes that he can make percepts his tools for a knowledge which is non-perceptual. He develops methods and a technique in which instruments play a dominant rôle for the purpose of the discovery of ratios and relations. The scientist always passes from the crude fact of actual observation to the scientific fact which is its conceptual interpretation. Mach's analysis does not sufficiently take account of this movement.

Another attitude is more prevalent than the one just discussed. The majority of scientists experiment and theorize in their respective fields and, in the endeavor to explain the facts which they ascertain, have recourse to essentially conceptual objects which are, nevertheless, on the same level as the more tangible things which we ordinarily speak of as being perceived. In this way, systems are constructed which are conceptual through and through. Their parts have been tested inductively and deductively, and it is almost impossible to separate fact from theory and theory from fact. The system as a whole is a growth which is coherent. In many cases, the conceptual factors worked into the system are supposed to be *verae causae*, hidden from perception for one reason or another, yet efficient. But every such *vera causa* reached by analytic theory must be capable of affecting the organism directly or indirectly. The result is a realism which is ripe to break with Natural Realism and to regard perception

as a basis for knowledge and not a knowledge in itself. Critical as these thinkers are and aware that science has often been forced to discard theoretical elements which seemed assured, they do not see how science can forego such constructions. Truth is a slowly achieved product attained by conquering error and correcting inadequacies. Furthermore, science has realized that all error is relative and is often of great assistance in the progressive creation of more adequate ideas. Hence, these scientists continue to keep a realistic attitude toward the physical world. It is, however, a sophisticated realism of a critical character quite different from the immediacy of Natural Realism. Knowledge is no longer a gift of perception which needs no testing, but an achievement liable to error. And a little reflection shows us that the existences and processes known are not and cannot be literally present in or to the mind knowing them. What is scientific knowledge then? The group of scientists who persist in scientific realism do not answer this question; they only hold, by the faith that is in them, to the success of their methods and technique. This attitude represents the outlook of the main body of scientists, and deserves more serious consideration from philosophy than that characteristic of those scientists who have given a reflective theory of knowledge upon the basis of a too meagre acquaintance with logic and psychology. We shall have occasion to return to it when we come to sum up our own positive conclusions.

Many scientists who have become reflective accept the historical distinction between phenomena in space and time and things-in-themselves. Here we undoubtedly have the influence of philosophy. Even though the technical terms be not used, the contrast between that which is present in experience and that which is real apart from experience is analogous to the Kantian distinction. And, as a matter of fact, many distinguished scientists have been avowed Neo-Kantians. For instance, a large number of scientists hold that matter is an unknown, perhaps an unknowable, cause of phenomena. It is supposed to elude their investigations much as life escapes the analysis of the biologist. They demand the existence of matter, but acknowledge that they

must content themselves with the study of phenomena. They are not even certain that the study of phenomena gives knowledge of reality. There is, however, no unanimity in the use of terms. Some are evidently followers of Locke, others employ the Kantian terminology. Some speak of mass as an attribute of matter, while others regard it as the quantitative aspect of phenomena. But we must not be misled by this variation into the belief that the positions are essentially different. The terminologies simply represent different traditions. The point to be noted is the agreement by members of this group in the acceptance of the distinction between things as they appear and the reality which somehow lies back of them. The position is realistic, yet it is far removed from the intuitionism of Natural Realism. It contains a strong agnostic note. Idealistic motives have made themselves felt so extensively and persistently that the "what," or content, is assigned to the side of experience, while the "that" remains outside of experience. The latter passes into the shadows, as it were, where it is seized upon by religious motives. The reason for this separation is, as we shall see later, the retention in large measure of the intuitional view of knowledge which characterizes Natural Realism.

The consideration of the three main groups into which scientists may be divided as they become reflective makes it evident that science, although it begins with that outlook which we have called Natural Realism, outgrows it in part and is led into difficulties which it is unable to master. A theory of knowledge becomes a crying necessity. The wider information, the more accurate tracing of relations, the proof of the minuteness and complexity of the processes which occur in nature, which science accords us, are essential to the final verdict to be passed upon the world; but a decision as to the nature and reach of knowledge is equally essential. The very fact that there are these three groups would seem to indicate that science itself has no means to solve this latter problem. It is not well enough acquainted with the instrument, thought, which it uses. The statement made by some scientists that the task is to describe certain recurrent clusters of sensations, strikes me as sufficient proof of this conclusion. The implication

of cognition cannot be ignored in this cavalier fashion. I feel convinced that much of the apparent idealism current among scientists who have attempted to develop a theory of knowledge is due to this ignorance of the instrument. Until it is bewildered by the rôle played by consciousness in the achievement of its results, science is realistic. This is an important fact which we must bear in mind.

But the attitude of the physical sciences cannot be fully appreciated before the complementary position of the psychical sciences is understood. Both take their departure from the distinctions of everyday life. These distinctions are, however, dual in character and involve contrasts between antithetic terms such as "outer" and "inner," "thing" and "percept." While things are common, persistent, and spatial, feelings and ideas are private, fleeting, and out of space. The physical sciences deal with extended objects causally connected in a closed system, whereas psychology is the science of consciousness. This term is a generic name for the sensations, images, pains, pleasures, meanings, acts of memory, etc., of individual minds. Psychology seeks to analyze and describe these and to determine their conditions. In so doing, it takes for granted the results of the physical sciences and is often able to bring them into relation with its own conclusions. These two classes of data are usually called the physical and the psychical respectively, and in accordance with this usage consciousness is considered synonymous with the psychical. The point which should be kept in mind is that these are contrast terms which always retain a shading, at least, of their relativity. This fact is especially important because of its bearing on the mind-body relation. We shall see that this contrast is often taken out of its scientific context and made absolute. In this act lurks a possibility of error.

As a natural science, psychology begins with certain postulates back of which it does not seek to go. It assumes the reality of the physical and of the psychical and their distinctness. The further postulates of psychology have been well stated by James as characters of the stream of thought. (*Principles of Psychology*, Vol. I, p. 225.) We

shall have occasion to consider these in more detail when we come to analyze the mind-body relation. It is beyond question the fact that science believes that the psychical is in the same world as the physical, although it does not know the nature of their connection. They are domains with quite different laws which yet have commerce with one another. The points of contact are two in number and both are equally ultimate. The psychical somehow *knows* the physical and is in some manner connected with it by means of the organism. It is evident that this outlook is only a development of Natural Realism. The question which interests us is this, How long does this adjustment between the two domains last? We have already noted the difficulties which confront the physical sciences as they become more complex and reflective. Will not similar difficulties concerning the relations between these domains arise when both groups of the sciences become conscious of their assumptions and overhaul their postulates? If we may believe Ward, the adjustment between psychology and the physical sciences continues until the problem of external perception is broached. "Psychology and the physical sciences, work on the level of this uncritical thinking, take each their own half of what—if they think about it at all—they suppose to be a consistent and complete whole." (Ward, *Naturalism and Agnosticism*, Vol. II, p. 173.) We have already noted how Mach seeks to adjust the standpoint of the physicist with that of the psychologist. The same elements are taken in different relations. We pointed out that this solution does not do justice to what the physicist attempts to accomplish. The psychologist remains on the perceptual level far more than the physicist or chemist, when he marshals the facts of perception. It is only by reaching another level that the scientist is able to eliminate perceptual perspective. I shall not repeat my analysis of scientific methods and technique, but shall only refer back to the examination of the distinction between the primary and secondary qualities and forward to the next chapter for further confirmation. Now, present-day psychology is in working harmony with the physical sciences, even though the problem of perception and its relation to knowledge of nature has not

been solved. Two points, accordingly, call for elucidation: Why is the problem of external perception considered so crucial? What *modus vivendi* has enabled psychology to remain in working harmony with the physical sciences? We shall take up these questions in some detail.

Physical science, working at first within the distinctions of common sense, considers perception an act or an immediate event which somehow brings us into direct contact with the physical world. Psychology, on the other hand, has for its subject-matter the supposedly private domain of the psychical. In this domain, also, immediacy rules.¹ So long as we are outward-looking, perception seems to be an event in which things are revealed; when we are introspective and lay stress on the conditions which mediate perception, the same thing-experience is considered psychical. When this new attitude intervenes, the object loses its substantiality and independence and gains a new context. It is surprising how little these two standpoints conflict, *i. e.*, how they can alternate in an individual's mind without his realizing their common possession, the percept or qualitative, concrete thing. The common element is submerged by the inferential differences, by the divergent characteristics of the systems or domains to which it is referred. I have known graduate students in psychology not to realize the intimate connection of percept and thing perceived. They seemed to regard the percept as something experienced in the head and were surprised when I pointed out that percept and thing were experientially the same *objectivum* qualified by different meanings. Small wonder is it, then, that the two groups of sciences, each working within its determinate standpoint with its own technique, find no difficulty in the relation of percept to thing. Dominated by their postulates, outlook and problems, the two groups of sciences do not ask whether their material is in any sense common.

But the difficulties which we have already noted as confronting physical science when it becomes reflective inevitably raise the problem of the relation of percept to thing. If the percept be the object of which we are immediately aware in

¹ The data of both psychology and the physical sciences are given with the same immediacy.

perception, how do we come to know the thing? When this question is once asked, the suspicion is awakened that the thing may be the percept. And we have seen that this is in a large measure true. Natural Realism falls permanently with the realization of this situation. Either, then, knowledge of physical processes is different from perception, although based upon it, or some form of idealism must be adopted. We have noted how Pearson adopts the second alternative, while Mach seeks to go back of perception to something more primitive. Pearson's position has always seemed to me the less disingenuous. The difficulty which Mach does not sufficiently realize rests in the fact that we do not seem to be able to get at the elements of ABC (the physical world) except through their relations to KLM (our body). But, when so taken, according to Mach, they are to be called our sensations. Thus sensations are basic, and the problem is, How is it possible to study the relations of the elements of ABC among themselves, *i.e.*, to study ABC as physical objects? I have tried to show how this feat is possible, but it does not appear possible of solution on the foundation offered by Mach. ABC are not given as primitive or neutral elements; they are given as sensations. However this may be, the percept enters the purview of the physical sciences as something to be reckoned with. The external sphere is thus attacked by the inner sphere which threatens to extend its boundaries. Percepts have an assurance, due to their immediacy, which makes them powerful antagonists of the previously sovereign things. It is for this reason that the problem of external perception is crucial. Any satisfactory delimitation of the spheres of the physical and the psychical sciences must be based on a theory of the relation of percepts to things, causally and cognitively. The significance of Berkeley has lain in his recognition of this fact and in his emphatic championship of the percept in opposition to the physical real of science. To be is to be a percept, expresses his attitude toward the physical world better than the phrase which he adopted.

Let us now consider the second question, What *modus vivendi* has enabled psychology to remain in working harmony

with the physical sciences even though the problem of knowledge was not solved? We have virtually indicated the answer to this question in our discussion of the first. The harmony is secured by retention and development of the distinctions characteristic of Natural Realism on the basis of a duplication of what is immediately experienced into percept and thing. The percept is taken over by the inner sphere and qualified in a way to accord with its new position. Let us call the primitive thing perceived the thing-experience. This thing-experience is, as it were, the matrix from which the more specialized percept and physical object of science develop. In the sections devoted to the distinction between the primary and the secondary qualities, so-called, we became acquainted with some of the motives which lead to this differentiation and fission.

Only after the percept of psychology and the physical thing of the other natural sciences have been achieved does the reflective problem of perception arise. The thing-experience, upon which the external sciences build their superstructure of measurement and theory, tends to be drawn into the psychical sphere as fundamentally a percept and the physical thing is, as it were, left suspended in air. And so long as knowledge is identified with perception and is supposed to involve the actual presence of the physical process, it must be left thus dangling. The best that even objective idealism can do for it is to give it the support of the categories and the virtual image of the ego. Alas! a virtual image, like a painted hook, will support nothing.

The other theory of the relation of percept to physical thing which will repay consideration is that of Ward. He begins with the individual's experience as analyzed by psychology, and points out that there is here no dualism but a duality of subject and object. To use the terminology with which we are as yet more familiar, percepts are inseparable from the percipient and are essentially private. In a general way, I think that we can grant this contention. Upon this position as a basis, he seeks to show that the constructions built up by science, the generalized or universal Experience with which it is immediately concerned has grown out of,

depends upon, and is really but an extension of our primary, individual, concrete experience. (*Naturalism and Agnosticism*, Vol. II, p. 153.) The conclusion which Ward draws is that the independence which science assigns to its objects is a mistake founded upon a misunderstanding of intersubjective intercourse. The "object" of science is a construction in which conceptual elements dominate, but the possessor of this construct is still the concrete individual. There can be no other subject of experience except such an individual. With this last assertion we shall agree and shall give definite reasons for our agreement in a chapter where we shall deal with the Advance of the Personal. But, if our analysis of the rise of reflection be correct, the independence assigned by science to the physical thing is not due to a mistake founded upon a misunderstanding of intersubjective intercourse. It is more primitive than the standpoint of psychology and is natural to the individual's experience. We shall have occasion to say more about this problem later; at present, we can only fall back on the examination made in the first chapter. Percepts are thought of as in a relation of onesided causal dependence upon physical things. Thus percept and thing differentiate themselves from the thing-experience and in the course of this differentiation retain as essential the contrast relation of things and their appearances to individuals. The exact nature of their cognitive relation is left obscure, although the implication is, that knowledge of physical things is somehow based upon percepts. The sciences take the causal relation between them seriously. And I have as yet seen no good reason not to do likewise. The difficulty does not lie in the concept of such a relation, but in the problem of knowledge; if we know percepts alone, immediately, how can we know independent physical things? Whenever this problem is raised, the impulse is to deny the possibility of such real knowledge and to lapse into idealism. This is what Ward does. Are not physical things, after all, constructs?

It is evident that the working adjustment between psychology and the physical sciences is one that has grown up on the basis of the contrast-meanings of common sense and has been strengthened by the respective methodologies of

the two groups. It is not one that has a systematic epistemology on which to rest. Hence, it is helpless in the face of a determined attack. This we have seen from a study of the typical groups into which scientists divide themselves when they become reflective in regard to their postulates. The central group, which does not despair of scientific realism, may feel that it is right or, at least, on the right road, but it is unable to give very cogent and definite reasons for the faith which is in it. If percepts are personal and we know only these immediately, how can our knowledge be other than personal? is a question which rocks science to its foundation. Because of this, it falls an easy prey to idealism, although its natural tendency is realistic.

To conclude, science begins its development within the distinctions of common sense, but is forced to deviate more and more from the standpoint of Natural Realism. Mind and mental control become an ever greater factor, and perception a mere means to the knowledge of physical processes. Hence, when reflection upon the nature and reach of the knowledge achieved by science arises, Natural Realism is rejected as an outgrown standpoint. With the relinquishment of this primitive attitude, science becomes a prey to doubt. While the realistic outlook still dominates, idealistic motives increase in number and in influence. A compromise which consists in the contrast between percept and physical thing ensues, but is left vague on the cognitive side. Consequently, the problem of knowledge becomes ever more insistent; until this is settled, it is felt that the facts and theories of science cannot be interpreted. Doubt arises even in regard to the objective import of its conclusions. How can objects be known if they are not perceived? Thus science forces the human mind once for all beyond its primitive outlook and gives the setting and materials for the unavoidable struggle between idealism and a critical restatement of realism.

CHAPTER III

THE ADVANCE OF THE PERSONAL

WE HAVE seen how, upon reflection, Natural Realism breaks down. The common, external world, supposedly open to the inspection of all, loses its definiteness and certainty and becomes more and more hypothetical, while the personal element gains in strength and assurance. It is the movement of the inner, personal sphere upon the outer, common sphere which we shall call the Advance of the Personal. The Advance of the Personal does not necessarily lead to idealism, but it does result in the recognition of the personal element in knowledge and raises questions which cannot be answered without a thorough analysis of the individual's experience.

With the Advance of the Personal, the old contrast—cherished in the heart of Natural Realism—between the physical world, which directly fronts the individual, and the inner sphere of images, ideas, and feelings, is reduced to a working-distinction within the individual's experience; that is, within the personal. The personal in this large sense covers both those experiences which are usually considered personal, or private, and those which are regarded as common. The one common world accordingly transforms itself into as many worlds as there are individuals. Yet at this new level, the question as to the nature of knowledge becomes ever more pressing. It alone offers to lead the individual into a common and independent world, transcending the isolation which the Advance of the Personal threatens to bring in its wake.

The application of the term "personal," in this generic sense, to all experiences needs further examination. We hear so much of "experience-as-such," or "experience-in-general," that the assertion that experience is always personal, commonplace as it is from one point of view, becomes radical if pushed to its logical result. In the following pages, I shall seek to justify the analysis given below:

Personal Experiences

Outer sphere		Inner sphere	
Social	Private	Social	Private

Such a division, representing as it does the triumph of the personal meaning over the social, or common, in the outer sphere as well as in the inner sphere, stands for a pluralism which holds that no two minds can share the same experiences, whether these be ideas or things.¹ This position may be designated mental pluralism. It should be noted, first of all, that this position, which logically succeeds Natural Realism, is not metaphysical in character—although it may be identified with idealism by hasty thinkers who are anxious to arrive at a conclusion; it is, rather, a necessary and interesting reorganization of the meanings in an individual's experience, preparing him for a more fundamental attack on the problem of knowledge. The position involves a vital change in one's outlook on the world and on the nature of interpersonal relations. Again, this reorientation demands, not a denial of the social nature of the individual's experience, but a reinterpretation of the social, which cuts it loose from its customary associations with Natural Realism.

With these qualifications in mind, let us pass to the reasons which justify the division above. How does the outer sphere, that of physical objects as perceived, become characterized as personal? By the aid of what motives is this meaning able to conquer in the face of the strong forces which work for the dominance of the social, or common, and—through this—of the impersonal and scientific? We must admit that the usual result of the conflict of the two opposed meanings is a drawn battle and a compromise. Points of view, quite antagonistic, are able to alternate in minds which are not critically reflective. Because of this lack of reflection, the conflict between the personal and the common is either wholly unrealized or veiled. It is surprising how often even the reflective resort to subterfuges to gloss over its existence. Logicians, who of all men ought to know better, are led by this pressure towards the impersonal and common to take its existence in a literal sense for granted. We, on the contrary, believe that the reality of the conflict between the personal and the common should be brought out clearly and emphasized as

¹ This is another point at issue between Critical Realism and the New Realism. It is partly for this reason that I have developed the topic so fully.

of singular importance. The whole superstructure of epistemology may turn upon the attitude taken toward this question.

Let us examine again the distinction between the thing and its appearance to the individual. We say that the thing appears under certain conditions in such and such a way, *i.e.*, it is modified by factors as real as itself, and we tend to consider this appearance as almost, if not quite, as real as the thing itself. There seems to be some vague notion of transmission or of modified presence. Consequently, the appearance is inseparable from the thing which appears and has, supposedly, the same sort of reality. Now the characteristic attitude toward the thing is that of realism; and there can be no doubt that the meanings of this attitude qualify the appearance also in a hesitant fashion. They meet and mingle with the personal factor, although they do not coalesce with it. The term "appearance" is thus ambiguous; it swings between the common and independent, and the personal. Accordingly, to the dualism of Natural Realism—the event of perceiving and the physical thing—is added this third element, the appearance of the thing, which seems to intervene between the other two. The appearance implies the thing, but that which is immediately given is the appearance and not the thing. Have we good reason to believe that appearances are necessarily personal?

In discussing the appearance and its conditions, we must perforce review some of the ground covered in the critique of Natural Realism. The point of interest is now somewhat different, however. We are concerned with the personal character and connection of the appearances of things. We must not forget, however, that the method of approach connects the appearance with physical factors in a causal way and, therefore, it must be as real as they are. And the reverse is also true; physical things must be as real as appearances. One cannot be accepted without the other. We need not recapitulate the many reasons which led us to hold that percepts or appearances are psychical. We also leave it as a later problem, to be met frankly, to define in a definite way what we must mean by the psychical.

We have already warned the reader against the misuse of the Advance of the Personal characteristic of the idealist. Because appearances are personal and intervene between the individual percipient and the physical thing, it does not follow that we have any less reason to believe in the existence of the physical thing. An effect cannot be more real than the cause. So long as we retain the contrast, we must remain realists. The interesting thing is that we are no longer certain how we can become aware of physical objects. We supposed that we were immediately aware of them, but we now realize that such an apprehension is impossible. The common-sense antithesis between a thing and its appearance is now seen to hold between a standard appearance and a secondary appearance. It is thus a contrast within the individual's experience which masquerades as one between an independent real and its appearance to the individual. Yet these couples have this much in common, that they are connected internally by a causal relation. That which is immediately apprehended does not prove to be self-sufficient. The baffling fact is that its conditions as soon as we apprehend them turn out to be conditioned. Perception can never reach the thing, but only its appearances; and the attempt to get beyond appearance in this sense by means of perception is quite as futile as the effort of Tantalus to obtain water to quench his thirst. If we are to arrive at physical things, it must be by means of knowledge, and knowledge must be other than perception. We do not as yet know what knowledge is, and, until we do, the doubt will not down whether it is right to assume that there are things of which our thing-experiences are appearances. Is not the contrast purely empirical, and have we any sufficient reason to regard it important for epistemology? With the breakdown of Natural Realism, this doubt is born. Its strength lies in the identification of knowledge with presentation, which it inherits from the older view. So long as the theory of knowledge characteristic of the lower level is accepted, it is impossible to understand how we could ever know things in contrast to their appearances.¹ The apparent strength of

¹ So far as I am able to grasp his position, this is the conclusion to which Fullerton has come in his inadequate, yet charmingly written book, "The World We Live In." Hence he denies the existence of anything but appearances.

Natural Realism turns out to be its greatest weakness.

In order to leave no weak point in our argument for mental pluralism, we shall first seek out all the reasons for the belief that individuals cannot share in any literal sense the same thing-experiences. The most natural view in regard to the affiliations of percepts, and that which has been generally held in both philosophy and psychology, is that percepts are inseparable from the inner sphere of organic sensations, images, ideas, and memories. There are specific reasons for this position, such as we shall detail later, and it is also supported by the feeling that an individual's experience is unitary. No evident line of demarcation runs through our experience and divides it into that which is common and that which is personal. We pass from thing-experiences to memories without sensing any boundary between them. When we regard them as experiences they seem to stand on the same footing. They occupy the focus of our attention successively and are qualitatively different in content, but they possess no labels which mark them off as private and social respectively. Inferences and meanings and classifications mingle so intimately with our experiences that it is not always easy to separate the secondary from the primary. But when this is done by dint of effort, it is realized that, at first, the individual's experiences come neither as common nor as personal, *i.e.*, that they do not possess either qualification as an indelible and primitive attribute. Hence, the conclusion that the division of the individual's experience into spheres, one of which is considered private and the other common, is the result of judgment and may, therefore, be wrong or wrongly interpreted. Let us examine, then, the reasons for regarding percepts as personal and intimately connected with the inner sphere of feelings and dispositions.

Percepts are judged to be dependent on the position of the individual's body. When *A* stands ten feet away from an object and *B* only two feet, they have decidedly different thing-experiences. This difference in the content of their experiences they become aware of by conversation or by interchange of place. The percept is, accordingly, considered a function of the position of the body; and since no two

individuals can have exactly the same position, their percepts, or thing-experiences, must differ.

Again, percepts are, in some sense, functions of the sense-organs involved. Physiology and psychology, by means of their detailed studies, have made this mediation undeniable; yet common sense, also, is aware of this dependence. We need not enlarge on this connection since we have discussed it already in another context. But the sense-organs of individuals are as distinct numerically as their bodies. Must not, then, their percepts be numerically distinct? Once Natural Realism is given up and mediation is accepted, thing-experiences multiply until they equal the percipients in number. Even were they alike in content, they would be numerically separate. And it is, besides, very improbable, to say the least, that the sense-organs of even two individuals would be functionally identical; rather is the similarity which exists between the percepts of individuals to be considered remarkable and explainable only by the delicacy of heredity.

Furthermore, percepts are functions not only of the position of the body and of the activity of the sense-organs but also of the nervous system. The statement that percepts are functions of the brain need not be interpreted to mean that a causal relation exists between them. Experiment and observation have rendered undeniable simply the fact that percepts are functions of the brain, using the term, function, in its mathematical sense. If so, percepts must be as distinct numerically as individuals are.

Psychology teaches us that percepts are conditioned not only by purpose and interest, but also by the past experience of the individual percipient. It is at this point that the modern idealist must modify Berkeley's doctrine of the origin of percepts (ideas). They cannot be merely passive effects produced in finite spirits by external agency; effects, in a qualified sense, of external agency they must be, but the individual's mind is a co-factor in their production. The stimulus passes into this new and denser medium and is transformed. A percept, in other words, is an achievement and not a mere gift. It is the product of past attempts to harmonize more or less conflicting data and can be understood

only when treated historically. The recognition that a percept involves the time-factor led formerly to the view that it was a concretion of sensations and images. Such a theory does not do justice to the unity and the purposive character of the percept. So far as the situation permits, they are standardized and moulded upon the dominant meanings which rule the physical world as man thinks it. Percepts, in short, *imitate things*; they absorb inferential elements and, as they do so, pass progressively from the transiency of sensation to the apparent perdurableness of objects. Because of this standardization, however, the type tends to override divergencies and peculiarities. The percipient both omits and adds. Impressionistic art represents a revolt against this inevitable tendency to perceptual habits, much as realism in literature seeks to force attention to life as it is in contradistinction to what complacent optimism dreams that it is. Our conclusion must be that percepts are constructions which have a history, and this history makes their abstraction from individual minds factually impossible.¹

Once more, the capacity for fine motor adjustments and manipulations varies widely. This fact is so patent and so generally recognized that I need not defend it in detail. Now, percepts are more intimately related to the motor side of experience than is supposed by those who have not given attention to the problem. Percepts are sensori-motor products. Even Kant saw that our perception of space could not be separated from the fact of movement. What may be called the sensory content of our percepts is important,—I do not wish to be understood to belittle it,—but so are the meanings which arise in connection with our bodily activities and motor adjustments to stimuli. Here again, we are face to face with individual factors in perception which even the idealist must recognize and somehow explain. Evidently, perception is not a mere passive presentation, but a construction whose genetic elements can be partially traced.

Finally, let us call to mind that percepts are continuous with feelings and with the so-called organic sensations. The

¹ Bergson's value as a thinker rests in large measure upon his recognition of the personal in experience.

impressive growth of the impersonal mechanical view of physical nature has operated in the direction of an expulsion of feeling. Once vaguely objective, feeling is now considered subjective or personal. Science regarded it as a fog which the sun of reason must drive from the face of things. Artist and poet have protested in vain against this rejection of the veil of feeling-values which for so long draped nature. We are not concerned at present with the truth of either side,—in a sense both views are true,—but with the relation of the problem to perception. Is not the distinction of the scientist a logical one ruled by a purpose? Do not inference and cognitive meanings dominate in it? Can it, therefore, be retroactive and dictate to perception as such? To answer the last question in the affirmative is to be non-empirical. Percepts are certainly suffused with the individual's feelings. The winds sound cold in March even while we are in well heated houses. But how can this be if there exists a chasm between percept and feeling? Yet feelings, although objective so far as immediate experience is concerned, are universally accounted personal. Again, an argument from continuity can be employed from the side of the organic sensations to indicate the personal character of percepts. In a sense, this mode of approach supplements the argument from feeling because of the seeming closeness of organic sensation and feeling. Granted that the clearness and discriminative distinctness of the sense-basis of percepts increases as we pass from organic sensation to the olfactory, gustatory, auditory, and visual fields, is there a psychological or a biological reason to assert a discontinuity in the series? When used cognitively they may give us information about different objects, but that is not the point in question. If there is no break, then one end of the series cannot be personal while the other is common.

The closer examination of perception has thus confirmed the Advance of the Personal. Every percept has unique conditions which cannot be duplicated. The position of the individual, the distance from the object, the structure of the sense-organs, the activity of the nervous system are some of the physical conditions of the percept which render it unique. Here we evidently advance from the impersonal to the

personal, from nature as it is in itself to nature as it appears to the individual. The past history of the individual, his dominant interests, the particular purpose and mental context of the time also play their part as conditions which he who is skeptical of the external factors must admit. A glance at both sets of conditions brings into prominence the individual reference. Psychology has long recognized the personal character of the percept and so, usually, has philosophy, except where the problem of common knowledge has made it timorous. We may conclude, therefore, that percepts are personal and that the external world, so far at least as it is immediately experienced, differs from individual to individual. No two individuals can possibly have numerically the same thing-experiences, even though it works ordinarily to make that assumption, as we have seen in our descriptive study of Natural Realism.

A further question might be raised at this point because of its epistemological interest and because of a curiosity we all feel in regard to the experiences of other persons. How far are the thing-experiences of individuals similar when had under like conditions? Probably the natural tendency is to assume a greater similarity than actually exists. This is because we are outward-looking and ruled by general terms and interests. We live in a world of meanings and indications rather than in a world of concrete content. The merely perceptual is incommunicable in much the way that feeling is, and drops into the background when the situation stresses the social. General terms and purposes are like coarse sieves: they allow the finer, more individual, phases to escape. The greater part of our lives we are, perhaps, unaware of this waste in transmission from self to self, yet a little reflection would surely make us conscious of it. The poet delights us because he can transmit his experience better than we can ours, and also because his experience is fuller and more varied. His words absorb, as it were, the delicate *nuances* of feeling and perception and make them capable of transference. But even while rendering his experiences, in a sense common property, he convinces us of their uniqueness. The artist gives humanity a voice, but at the same time deepens its

isolation. Now what the artist accomplishes without purposing it, the philosopher must do reflectively. He must force upon mankind a sense of the personal source of knowledge. We have seen that the external conditions of perception can be only partially duplicated. This approximation is much less attainable as regards the internal, or historical, conditions. To what degree are the brains of individuals similar? Their past history? Their dominant interests? Their purposes? Were all the effective conditions similar, we should be forced to postulate the similarity of the results. But how can this be? The universe appears to focus itself in a multiplicity of centres qualitatively different in character—how different it is for experience to say. Since we cannot, if our argument for the Advance of the Personal hold, place two percepts side by side to compare them when they exist in separate minds, we are left with only indirect means, such as language and conduct, to judge their similarity. How far such instruments carry us towards a solution of this problem must remain an open question.

Thus far the Advance of the Personal upon the outer sphere has been successful. It is true that the common, or impersonal, has retreated in good order and taken up its position in the physical world of which the individual is supposed to have percepts, but such a retreat is an irretrievable disaster for Natural Realism. If realism is to be saved, it must disembarass itself of its immediatism; *i.e.*, the physical object can no longer be regarded as immediately present in perception. Unfortunately, idealism has too often considered the Advance of the Personal a final stage instead of a reflective movement which clears the ground for the real struggle between idealism and a mediate realism. The problem passes from perception to conception. The query will no longer down whether the things of the physical world of which science speaks, in which the meanings "common" and "independent" take refuge, are not ideals, types even more of the nature of constructs than our percepts are. Science, as we saw, is inclined more and more to admit that its objects are conceptual and not perceptual; but it asserts that, if they are constructs they are constructs controlled by facts and necessary methods. The

more consciously and fearlessly science moves to this new standpoint away from common sense, the more it disagrees with the statement of Hume, "We do not, generally speaking, suppose external objects to be different from our perceptions; but only attribute to them different relations, connections and durations." (*Treatise*, p. 68.) We do, in science, assign to things relations, connections, and durations different from those we assign to our percepts; but we also judge that they are different in other regards. The Advance of the Personal upon the world as perceived has, therefore, done two things: It has brought out in a tensional way the distinction between the impersonal process of nature and the individual's personal percepts; and it has made idealism a possibility.

The level at which we have arrived can be illustrated very well by the following example. "When ten men look at the sun or moon," said Reid, "they all see the same individual object." "But not so," Hamilton replies, "the truth is that each of these persons sees a different object." (Quoted from Ward's *Naturalism and Agnosticism*, Vol. II, p. 165.) Evidently, the two Scottish philosophers occupy different standpoints. How shall we characterize them? Ward's interpretation follows his theory of the relation between the individual experience and the common empirical knowledge of the race—"Experience" with a capital *E*. Individual experience is primary and antedates intersubjective intercourse, but is corrupted by the latter. Psychology deals with experience in the first sense, the living experience of a given individual; natural science with Experience-in-general. Let us now note his application of this theory to the divergent positions of Hamilton and Reid. "It is obvious that they are here at different standpoints: Reid at that of universal, Hamilton at that of individual, experience. In Hamilton's sense, not one of the ten sees *the* sun; in Reid's, 'the same individual object' which all mean is not equivalent to the immediate experience of any one. Hamilton is right in so far as each concrete experience has its own concrete object; Reid in so far as common experience relates all these concrete objects to one phenomenon." Is this interpretation, which chimes in with his own distinctions, the right one? Hamilton's position

is correctly assigned, it represents what we have designated the Advance of the Personal. But does Reid's statement reflect the attempted foundation of a realism which admits the multiplicity of individual thing-experiences and seeks to transcend them? Or is it more expressive of Natural Realism? Now there can be no doubt that Hamilton's position represents a step in advance of Reid; he saw the complexity of the problem of perception as the philosopher of common sense did not. Hence, the more plausible explanation of these two contradictory statements is to regard them as representing two levels in reflective development instead of individual and universal experience respectively. Man begins with a realism, and only afterwards, as a result of the contradictions which arise, does he realize that thing-experiences are unique for each individual. Ward begins with the organic character of the individual's experience and seeks to explain the rise of dualism by a misconception. His argument seems to us ungenetic. The isolation of the fields of experience of individuals is a fact of which knowledge is only slowly achieved.

A large share of the difficulty experienced in discussions of perception is due to the associations of the term. There is a reference to that which perceives, to an act or event called perception and to that which is perceived. Common sense assumes that it is the individual who perceives, and that it is something as real as the individual which is perceived. Perception is thus an act which holds of the individual as a whole. But the psychologist thinks of perception as a process which goes on in the mind of the individual, and this process includes the self which perceives and the presentation which is perceived. The self is no longer to be identified with the individual as a whole. Such a process is the event of perception which is caused by the interaction of the psycho-physical organism and a stimulus from the physical world. The question which confronts us is this: Must we give up the view of perception encouraged by Natural Realism and adopt that held by psychology?

Suppose we now take it as proved that two individuals cannot have the same thing-experiences; how do they discover

a correspondence between them, and why do they tend to regard them as identical?

It will be noted that the question presupposes interpersonal intercourse although it does not prejudice its nature and extent, which remains a purely empirical problem. We have already emphasized the fact that individuals are not in a position to ascertain how extensive the divergence in texture of their thing-experiences may be, except in extreme cases like color-blindness, because they cannot place their experiences side by side for comparison as they can two of their own. Hence, they are compelled to resort to tests of grouping and of arrangement in series. Ultimately, these tests base themselves on perceived spatial relations whose correspondence is taken for granted. These spatial relations themselves are, however, founded on organic activities. When two people walk together or lift up their hands together, they cannot doubt the correspondence of these movements. Correspondence along this line has, moreover, its pragmatic tests. Movements are overt, and people can, therefore, come to an agreement in regard to them. Interpreted activities are the primary source of communication. The communication of adults is ordinarily so satisfactorily mediated by language that we are likely to forget this fact, but observation of young children brings it home to us. To return, then, to other than broad spatial correspondences: if, for example, the sound, b , is experienced by one individual as higher in pitch than the sound, a , and the corresponding sound, b' is experienced by another individual as higher than a' , this serial relation is considered a test for the absolute quality of the sounds in their experience. Likewise, if the colors in the spectrum are grouped for me in an order correspondent to their arrangement for you, our terminology will agree. Theoretically, at least, the name is determined by the spatial order and not by the colors. If I saw green where another saw yellow and yellow where he saw green, we would be unable to discover the exchange. What reason, then, have we to believe that nature is clothed for different individuals in the same colors? So long as the corresponding thing-experiences had always the corresponding color, no matter what this color might be, the

difference in the color-quality could not be detected. Now, correspondences are only roughly examined in practical life. It is for this reason that color-blindness remained unremarked for so long a time. More accurate examination, accompanied by attempts at reproduction as in painting and in music, usually discloses differences that had not been noticed. The world of the artist has more and finer gradations than that of the ordinary man who has neither his training nor his natural capacity for distinguishing delicate tones. But lack of fine chromatic and auditory distinctions represents only one extreme. It is quite possible that the color, sound, and taste experiences of individuals do differ in *nuances* that no tests are capable of revealing because they presuppose these experiences as ultimate starting-points. The principle to bear in mind is that individuals can test the content of their perceptions to determine their correspondence only indirectly by means of relations in series or by attempts at reproduction, and that the latter method furnishes a test for discrimination only. *Such tests rest upon, and are bound up with, movement for which passive content is unimportant.* The perception of movement is a perception of a relation or a successive series of relations. Hence, we seek correspondence and not similarity. In other words, order dominates over passive quality. Recent works on genetic psychology have rightly emphasized the importance of imitation in the establishment of communication between child and nurse. Likewise, the behavior of parents, where it fits in with and continues the child's own efforts, furnishes a basis for the child's interpretation of the experiences of others. (Cf. Stout, *Groundwork of Psychology*, Chap. XIV.) Our conclusion must, consequently, be that sameness or commonness as applied to our thing-experiences is a meaning which grows up in each individual's consciousness naturally but mistakenly. Since men are not philosophers, any other more reflective view could not be expected. At first, men believe that they indicate things to each other when they point. It is only much later—for the majority, never—that they realize that they indicate by means of a gesture *perceived by another* the place in that other's experience of the percept which corresponds to their own.

At the level of Natural Realism, then, at which we all ordinarily live, our thing-experiences, which we mistakenly regard as independent things, possess the meaning of sameness. The very nature of interpersonal communication, as we have seen, renders this attribution inevitable. With the Advance of the Personal over the field of outer experience, sameness is forced to give way to correspondence. When the problem of the nature of an individual's knowledge of other selves comes up for discussion, the manner in which a percept is duplicated and treated as in two consciousnesses at the same time will be found very interesting. My percept must be substituted for yours in my thought of your experiences. In this sense only, are my thing-experiences at once personal and common. Always they are personal,—that is the genus,—but sometimes these personal experiences are considered common, sometimes private. These are, as it were, species thrust upon us by the social character of our life. Let us now pass to a similar examination of concepts, or meanings.

Developed thing-experiences are full of meanings. These meanings concern not only their own individual content but their relations to other things and to the individual who is said to perceive them. We have examined the more important generic meanings which are characteristic of Natural Realism. It is the presence of these which made Reid regard perception as an act involving judgment. In fact, no hard-and-fast line can be drawn between perception and conception. Interpretation plays its part, but not always consciously and reflectively. Thus meanings mingle with, and form an integral component of, thing-experiences. Hence, the same question which came up for discussion in regard to percepts must be asked in regard to meanings. Are meanings personal? If so, the content of knowledge must be personal.

Let us begin our investigation with space, which seems to lie so tantalizingly between perception and conception. It is this hybrid character which has led to so many fallacies in the treatment of space. It is this fact which has made it so easy to regard space as common, even after it has been admitted that individuals cannot possess the same percept. The late Professor James fell, at least temporarily, into this

error. And there can be no doubt that Kant confused perceptual and conceptual space in the *Transcendental Aesthetic*. Perceptual space is reënforced by active motor experiences of relations. Coöperative movements furnish continual tests of agreement so that spatial standardization and acknowledged correspondence reach a high development. Space becomes less a passive attribute of thing-experiences than a meaning, a tool for their mutual organization and a scheme to aid in mutual reference. The fact of its use as a means to secure coöperation stresses its assumed commonness. Added to this is its lack of vivid content, the absence of features interesting in and for themselves. At the level of Natural Realism, these semi-perceptual space meanings form the web of physical things. Because of the profoundly coöperative nature of such a space, it seems even more primary and impersonal than thing-experiences and, consequently, resists the Advance of the Personal with more success. Moreover, measurement enters to lift spatial relations beyond perceptual perspective into what science claims to be knowledge. We must remember, however, that knowledge about distances is not the same as either perceptual or conceptual space. Thus a little reflection convinces us that the hypothesis of the actual common possession of space as experienced is not required. Besides, when we examine the spatial estimates of individuals, we are immediately struck by differences which usually pass unnoticed. Form, size, and distance are experienced differently. Science long ago discovered the fact of individual variations in the estimation of perceptual space and seeks to overcome it by the superposition of objects. Furthermore, psychology informs us that the spatial content which functions in an object varies greatly from individual to individual. The visual may dominate in one, the kinaesthetic in another.

The Advance of the Personal to the realm of meanings involves an alteration in outlook at least as profound as that which has occurred for the outer world. Meanings are even more social and standardized than percepts, since they are the products of coöperation and of communication. They imply the past activity of the race as well as the intercourse of

contemporaries and thus seem to possess an immortality not granted to the individual. We shall find the same natural tendency to realism at the level of thought as at that of perception. We say that we have the *same* meaning in mind, much as we speak of seeing the same thing.

The truth is that we are as dualistic and realistic in conceiving as in perceiving. Both attitudes are modeled on the same realistic persuasion and have the same genetic basis. Perception and conception, percept and concept are less separated than is sometimes supposed. The distinctness of the terms is not paralleled by like distinctness of the material denoted. Objects which we perceive are at the same time conceived. It is for this reason that the object conceived is looked upon as identical with the object perceived. It is only our relation to it which has changed markedly—how, we should probably be unable to say. In one instance, we assert that we perceive Mars; in the other instance, we claim to know, conceive, or judge about Mars.

Simple demonstrative judgments like the assertion, "That is a field of rye," are expressed within the realistic outlook of common sense. The attention is riveted on a part of the landscape, a field covered with greenish growth. Perhaps my companion and I have been unable to decide from a distance whether the vegetation is rye or wheat. We go nearer and note the rankness of the growth and its specific color and decide that it is rye. The growth is now known as a certain kind of grain with distinctive characteristics. These meanings cohere with the thing-experience and develop it. Judgment is evidently not a process which is referred to the head, but is staged in the world of things.¹ When once accepted, meanings are as objective and common as the thing-experiences with which they coalesce and which are taken as common. They are absorbed by the outer sphere. To use our example, the field is now *experienced* as a field of rye. Reflection, having accomplished its function, drops out of sight, and the external world settles down to a new immediacy.

Communication so qualifies ideas or meanings that they are from the first suffused with the sense of commonness and

¹ Ideas are no more and no less to be referred to the head than the world as perceived.

social objectivity. It is *our* idea of God or of virtue rather than *my* idea. The mass of people think not as individuals but as groups, the greater part of their lives. At the lowest level the personal note does not intrude at all. Ideas are vaguely objective, and their social currency is taken for granted. We suppose ourselves to have the same meanings and to think the same thing. And we do not see any ambiguity in the word "same."

Thus concepts and ideas are standard objects of a peculiar kind, gradually developed in social intercourse and functionally connected with a supposedly common world. It is not strange, then, that the attitude which we have called Natural Realism is transferred to them as a part of their birth-portion. We are not aware of any mysterious passage from an inner to an outer sphere of existence in judgment. A theorist who despairingly asks how an idea in his head can qualify a thing in the real world has distorted the assumptions of judgment by the injection of false distinctions. Things and meanings must be on the same level. But we have been led to assert that thing-experiences are numerically distinct and even different in texture for individuals. Is it not probable that this distinctness holds for meanings also? Cannot the meaning "personal" subordinate the meaning "social" in the sphere of concepts as it did in that of thing-experiences?

In the first place, the matrix of meanings is perception. Of course this latter term must be taken in a broad way to include relatively immediate experiences, inner as well as outer. It seems, therefore, absurd to expect a change in existential nature between the plant and the flower. If one is personal the other also must be. There is no need for us to enter into the genetic history of concepts and to show how analysis, abstraction, and synthesis play their part in the development of concepts. Logic and psychology have been engaged in examining and stating the steps and factors in the process. Suffice it to state that empiricism has won an overwhelming victory over any dualistic rationalism. To some, perhaps, this statement may appear dogmatic, but, surely, only if they confuse empiricism with sensationalism. Few, I take it, would to-day defend innate ideas. They

would accept Hume's test,¹ with the qualification that concepts are not mere copies of *impressions* but presuppose complex processes of analysis and of interpretative inference. Even so, the personal character of the matrix must tinge the product. We shall have occasion to examine adversely the belief that individuals can achieve numerically the same meanings when we consider the postulates of logic. Words come between us and our meanings and lead us to assume a greater agreement and definiteness than exists. That holds here which we found in the case of perception; our everyday purposes require only a general identity and, therefore, assume a complete identity. This means that their tests are not exacting and that there is a natural tendency to assume a literal commonness.

Again, meanings, like percepts, are in a sense functions of the interests of the individual; *i. e.*, they are in active relation with that which is most characteristically personal. In other words, meanings are teleological and reflect the point of view and dominant purpose of the thinker. While one aspect of an object may appeal to me, another feature or relation of it may engross your attention. When any recent important event is up for discussion in a group of men representing different professions, it is illuminating to note from what different angles they view the occurrence. Diversity rather than agreement prevails in their counsels. That such disagreement is usually a surprise to them brings out the point which we are seeking to make, that commonness is simply a natural assumption which men make because they are at once outward-looking and self-centred. What we found to be true in the case of perception holds for conception. Constructs do not develop of themselves; interests and purposes, usually of the most practical character, furnish the vital force and guide the growth. Those individuals whose occupations and habits of mind are most nearly alike achieve most similar results. Each trade and profession has its special concepts made upon the model of

¹ "When we entertain, therefore, any suspicion that a philosophical term is employed without any meaning or idea, as is but too frequent, we need but to enquire, From what impression is that supposed idea derived?" ("An Enquiry Concerning Human Understanding," p. 19, Open Court edition.)

mutual interests. But the specialization of classes must not be thought to exclude those experiences and activities which are universal and give a common bond of agreement, yet the error of common sense is to be blind to the diversity and to regard the unity as a gift, not an achievement.

Diversity and agreement are, then, limits between which men fluctuate. Common sense—and I fear she is often followed in this by philosophy—overemphasizes the agreement, while the poetic and the non-conformist temperaments realize the diversity. The introspective and reflective person is only too fully aware of the isolation of mind from mind and of how unique and inimitable are the peculiar shades of meaning which pass before his consciousness. He is less dominated by terms with their formal identity and persistence and seeks back of the superficial uniformity for the living and individualized movement of ideas. Here he comes in touch with the currents and eddies of consciousness in which concepts are born or in which they are transmuted. But we must not be led into mystical lengths. Men do understand one another,—this is shown by their coöperation and by science,—although comprehension does not require the toneless identity of ideas.

Commonness in its defense appeals to logic, and to logic it shall go. Logic, like any other discipline, works within certain postulates which require careful interpretation. The investigation of these presuppositions is usually assigned to epistemology. However, many writers take logic in so inclusive a sense that its more theoretical part concerns itself with an examination of the assumptions of formal and empirical logic. Recent usage favors this enlargement of outlook. Let us, then, in a critical way investigate such of the postulates of logic as are relevant to our present problem.

According to Venn (*Empirical Logic*, Chap. I), the world must be postulated as being essentially the same for all observers. Now the detailed examination of the nature and conditions of the perceptual world of the individual which we have already made precludes the possible truth of this postulate, unless the phrase “essentially the same” be interpreted very liberally. “The same” cannot mean here numerical identity;

it may mean "correspondent to the degree suggested by intercourse." The postulate becomes, thereupon, the expression of an ideal founded upon a purpose, that of intellectual co-operation. It is, in a sense, a fiction and must be so regarded if taken absolutely. Logic is a normative science, and its norms express the perfect fulfillment of hesitating fact. This postulate is, furthermore, not self-interpretative. Venn assumes that logic works within the outlook of common sense, and this assumption determines the meaning to be given the word, *same*, but the break-down of Natural Realism forces a new point of view and with it a new interpretation of the term. The forward movement of experience, stimulated by the need for consistency, can alone be the interpreter. Logic, like psychology, can aid this movement, but it cannot dictate to it.

After the foregoing discussion, a second postulate can be treated more briefly. Logic takes for granted an identity of significance amongst those who intercommunicate. This identity may be a minimum actually, and logic as an art seeks to increase its extent, especially by its emphasis on definition. When analyzed, this postulate dwindles down to the demand that individuals comprehend one another. Such a comprehension is an empirical fact and must, therefore, be explained; but the assumption made by some logicians that an identity of significance involves a numerical identity¹ of concepts is a hypothesis and, as we have seen, unwarranted. It is a crude realism which refuses to entertain other possibilities.

But the problem is more complicated than at first appears. The assumption of reference, or, in other words, the question of knowledge, hovers in the background and supports a realistic interpretation of identity. The objects *known* must be the same for all; else there is no common knowledge and no common universe. The Advance of the Personal upon the field of perception secured only an outpost, for the independent object separated itself from perception and linked its fortunes with knowledge; otherwise idealism must have resulted. If, however, knowledge is based upon concepts, and these are personal and not numerically identical, what becomes of the

¹ Logic has concern, not with existential or numerical sameness, but with sameness as exact similarity of content. These two meanings of sameness are often disastrously confused.

independent object? And how is common knowledge possible? It is not to be wondered at that the realistic tendencies and meanings of the human mind have rallied round judgment and intrenched themselves in the implications of knowledge.

We do not as yet know what knowledge is. Hence we do not know that it involves the actual presentation to different minds of numerically the same objects. Unless this be assured, logic has no right to insist that the identity it sets up as an ideal is a numerical identity. Either knowledge is mediated by concepts or it is a unique gift independent of those constructive processes of interpretation with which it has usually been connected. Once percepts are considered personal, the intuitionist view of knowledge loses its plausibility and must be adjudged a leap in the dark, justified only by the failure of mediate theories. And thinkers should not be too easily convinced of the impossibility of mediate theories of knowledge.

We have seen every reason to believe that concepts are constructions of individual minds and numerically distinct for different individuals. There are thinkers who oppose this view, yet I am sure that their opposition is based on a misunderstanding. Let me give some further reasons for my belief.

It is usually admitted that the empirical idea which arises in a mind when a word is understood cannot be exactly duplicated in another mind because of the difference in outlook due to past experience. Thus far many of these thinkers would agree with the position advocated by me. But the case is different, they would maintain, with the logical idea, or meaning; this is the same for all and is relatively independent of any particular thinker. In other words, they suppose that the ideal of logic is realized. Lotze went to the extreme of asserting the "eternally-self-identical significance of ideas which always are what they are, whether or no . . . there are spirits which by thinking them give them the reality of a *mental event*." (*Logic*, sec. 317; quoted from Wolf, *Studies in Logic*.) We have here a very good example of a logical realism which is not much less naïve than Natural Realism itself. The nature of logical meaning has been a disputed

point. The basis offered by associational psychology was so inadequate that strange theories like that of Bradley arose—theories for which “meaning consists of a part of the content cut off, fixed by the mind and considered apart from the existence of the sign.” Recent psychology has departed from its nominalism and now regards meanings as primary. Meanings are empirical ideas controlled and standardized by intellectual interests. They are products of analysis and synthesis and are as much mental objects as thing-experiences are. To consider meanings as psychological existences involves a change of attitude and outlook which is secondary. Strictly speaking, the world of things which they qualify becomes mental at the same time. These points of view do not conflict, and the idea as meaning does not need to be quarried out of the idea as existence. Rebel though he was against psychology, Bradley could not escape the tyranny of its special point of view. Hence, meanings are considered homeless, mere wandering adjectives which have no abiding place. Quite the contrary is true. Meanings are unique personal experiences which are born in the minds of individuals and function there. Ordinarily, we do not view them as personal nor consider them as mental. Why, we have already explained. We move from meanings to their existence, not from existence to meanings released from all existential bonds. Much of the trouble logicians have found in their treatment of meanings has been due to their separation of thing-experiences from meanings, and to the tendency of the older psychology to keep mind to the level of images of a bare and uninterpreted sort. The remedy is a more adequate empiricism.

Bradley's position, untenable as it is, is certainly an advance on the older tendency to hypostatize ideas. Such a hypostasis of concepts results from a misunderstanding. Because a concept, such as that of beauty, does not concern itself with time; it is supposed to be timeless. But a thing-experience is experienced as relatively permanent, although we know that it is transient. A concept, as an object of attention, may disregard time and yet be as temporal as a feeling. When we say that we can have the same concepts over again, this does not mean that we have numerically the same

concepts. The truth is, that we do not concern ourselves with any identity other than that of the content which we conceive. Suppose we are thinking of the abstract quality whiteness; it is an object of a specific character which, as such, has neither spatial nor temporal relations. We can think of this object again and again just as we can think of a particular house or of an event in history. The "sameness" applies to the object as content which we conceive. The primary fact upon which the supposed sameness rests is that the idea-object is not qualified by any relation to what is called the act of conception. The mechanism of the logical realism which we are criticising is exactly the same as that of Natural Realism. But just as that which is perceived is qualified as permanent and common although it is only a transient thing-experience of an individual, so a conceptual object, of whatever character, is also only the concept of an individual at some moment of time. The evanescent character of the idea-object does not appear as part of its content. We shall better understand this apparent paradox later on. These conceptual objects may be class-concepts or universals, abstract ideas, relations, events, or particular things. The difference between them lies in their nature, in what they are experienced as. As concepts, as personal, they are on the same level of existence. There is, as we have seen, adequate reason to regard them as mental. If so, as existences they would be as temporary as thing-experiences on which they are genetically based.¹ We must call attention to the fact that, here again, the problem of identity is complicated by that of knowledge. The social motive is especially strong. Because these conceptual objects are qualified as common, the tendency is to view them as independent of *all* individuals because they are, when so qualified, looked upon as independent of *each*.

Another point: the concepts of which the logician speaks are abstractions which are seldom realized in thought under ordinary conditions. The sentence, or judgment, is the actual unit of thought, and even this more natural unit is bound up with the universe of discourse. The universals of which the

¹ It will be evident to the reader that I am opposing all forms of logical or Platonic realism. The "New Realism" on both sides of the ocean seems to me guilty of believing that, because the content of a concept contains no reference to time, the concept must be timeless. Does it follow?

rationalist talks are too often fossils or, better, artifacts due to a special point of view. They correspond to the objects of living thought in individual minds much as museum specimens do to the free, live animal. Universals are supposed to be changeless entities which subsist out of space and time. Nothing could be less true. Universals grow through the activity of minds in society, and the concept of beauty of one generation is not that of another age.

Let us, then, accept what the facts indicate and push bravely ahead. It is obvious that our argument requires of us the frank acceptance of mental pluralism, that no two minds can have numerically identical concepts or percepts. Since the problem of knowledge is not yet solved, this position cannot be called idealistic. Both epistemological idealism and realism remain as possibilities between which a decision must finally be made after experience in all its distinctions and implications is understood. Thus far the result of the Advance of the Personal has been, epistemologically speaking, negative more than positive. It has tended to discredit the view that knowledge of the physical world is the actual presence of a real and that the same impersonal real may be present to different minds. In short, it has been antagonistic to Natural Realism and to naïve realism. Still another point: how shall we restate the postulate of logic which refers to the social identity of our meanings and judgments? It is a fact that when I make a judgment I expect others who have like materials to agree with me. My judgment lays claim to universality. Let us assert that the judgments of individuals *correspond*. It is in this sense that they understand one another. The degree of correspondence realized differs widely from individual to individual and exact correspondence is a norm, or ideal, rather than a fact. Furthermore, the tests of agreement are empirical, and simmer down to language and action. Let us examine this conception of correspondence a little more fully.

In his larger *Logic* Bosanquet suggests, as a simile which will help us to realize the paradox of reference, the following point of view. Suppose we assume that the world as known to each is constructed and sustained by his

individual consciousness and that this holds true for each individual. "Thus we might think of the ideas and objects of our private world rather as corresponding to, than as from the beginning identical with, those which our fellow-men are occupied in constructing, each within his own sphere of consciousness." Unfortunately, he is inclined to regard as a simile what we regard as a fact. Elsewhere Bosanquet seems to consider the position that the many private worlds of individuals correspond, a conception from which logic must start. (*The Essentials of Logic*, p. 17.) He believes, however, that a real system appears, differently "though correspondingly, in the centres of consciousness which are ourselves." Just here vagueness overtakes him, and we are left with questionings as to the nature of this real system and how it "appears" in these private worlds. Nevertheless, his frank recognition of the uniqueness of each individual's world is to be regarded a support of the argument developed in the present chapter.

The Advance of the Personal has, then, led us to mental pluralism. Minds have correspondent meanings constructed by their own efforts though aided by coöperation, imitation, language. From this reflective standpoint, concepts must be considered existentially personal; that is, always the concept of some individual, even while they are qualified as common. Remembering our natural tendency to realism and the secondary character of the present critical perspective, we should not be surprised that meanings are treated as common and rather impersonal objects of thought just as things are. The pressure of society, our knowledge of the social origin of many of our concepts, our dependence on the inherited instrument called language with its dictionaries and authoritative usages, the intimate mingling of thoughts with things—all these factors work together to suffuse our concepts with the character of commonness. Those meanings which are evidently unique creations of our own do not obtain this sanction and are held apart as private. This subjective realm consists very largely of those experiences which will not fit into the socially accepted objective domain. Errors, misconceptions, privately cherished ideas, personal ideals, etc.,

are adjudged private, while truths, established theories, and acknowledged standards of right and wrong are considered common and objective. Critical logic, then, as well as psychology, is compelled to accept the division of the individual's experiences into those which are considered common and those adjudged private. From the reflective standpoint, these are simply species of the personal.

A very prevalent confusion between social production and social existence is to-day to be found in both philosophy and sociology. Perhaps this misconception is due to a reaction against the ethical, economic, and political individualism of the eighteenth, and early part of the nineteenth, century. It is also, beyond doubt, the result of the objective monism of science in which individuality is lost in the causal nexus of the whole. Assuredly, however, a fallacious inference has been drawn. Social production does not necessarily involve social existence. Because my conceptions are unthinkable apart from my relations with my fellow-men, it surely does not follow that they are social possessions in the sense that a municipal lighting-plant is. Looked at genetically, my cerebral language-centre is a social product, but it has not a social, or common, existence. Genetic psychology and social ethics have made a commonplace of the fact that individuals develop within a social environment; but it does not follow from this that individuals do not exist or that individual and society are aspects of the same thing. What is required is a clear understanding of the position opposed by these social enthusiasts. One cannot but have the suspicion at times that they are uncertain what, precisely, this may be. Is it egoism in the ethical sense of the term? But egoism is antithetic to altruism, not to mental pluralism. Is it individualism in political affairs? Individualism has socialism for its contrast-term; and I am sure that the present position does not undermine socialism. Is it solipsism that they fear? Mental pluralism by very definition denies solipsism. What is needed is not vague statements to the effect that individuals cannot be separated or that they are aspects of one another, but definitions and analyses.

Individuals develop in active relationship with one another

in that organization which we call society. Society is but a name for these individuals *in* relations determined by their needs, interests, and inherited institutions. Hence, to deny the relations of individuals or the part played by social products, such as language and political and industrial institutions, is evidently absurd; but to refuse existence to the individuals who are in relation is equally nonsensical. We must study the nature of social relations to see how far the individual is separable from them. While man is by nature a political animal, this does not mean that he perishes as soon as removed from society, as a fish does when taken from its native element.

Let us examine the terms "society" and "the individual" to see how far they are relative. It is a mistake to suppose that terms have the same degree of relativity. A subject implies a sovereign and a sovereign a subject. A parent supposes a child, and a child a parent; but the implication is not so mutual. The parent may be dead, and the child remains a child. Shepherd implies sheep, but sheep do not always have a shepherd. It may be said that the sheep enter temporarily into a unique relation with the shepherd but that this does not affect their nature sufficiently to warrant a special term. Correlative to the shepherd would be the sheep-as-shepherded. In the case of the man, the occupation is significant enough to receive a name. But the man can turn to another occupation. The point which this example brings home is the relative externality of relations. In like manner, society stands essentially for a system of relations into which the individuals enter from their birth and in which they can best fulfill their being. But they can be removed from such group connections and exist like so many Crusoes. This isolation is possible because social relations are *secondary* and depend on biological and psychological individuality. But the individuals are changed by their isolation? No doubt; their identity, however, is not destroyed by the separation from their fellows. The degree of alteration remains an empirical question.

The individual and society must be adjudged only semi-correlatives. This result supports the Advance of the Personal against the objection that the individual is an abstraction

when considered apart from society. Such objections, which are so prevalent as to excuse what may seem to some the defense of the obvious, depend on the influence exerted by abstract monistic principles and the confusion of social causation with social existence. Certain pragmatists who wish to escape all suspicion of solipsism are the worst offenders at present. The following passage illustrates very well what I mean. "Not only in its origin, but in its continued development and operation must it [the individual consciousness] always be a function of the whole social situation of which it is born. However 'private' or 'individual' consciousness may be, it is never to be regarded as wholly or merely the function of an individual mind or soul or of a single organism or brain." Note the phrase "wholly or merely" which beclouds the issue. The confusion between social causal production and social existence is apparent in this quotation from Dewey.

The realization that individuals are conditioned in their development, physical and mental, by their relations to other individuals and to the products of the coöperation of individuals in the past, is but the recognition that nothing in the universe stands alone. Individuality does not imply isolation and complete self-sufficiency. The individual is conditioned by innumerable factors, yet he is a centre of relations and so highly organized and full of initiative that these relations lose significance when he is denied. In a word, individuality involves distinctness and relative autonomy, but not separation.

The results of the foregoing analysis of the relation of the individual to society agree with the more introspective conclusions which preceded. It is a mistake to suppose that the facts stressed by social ethics, sociology, and social psychology are incompatible with the existential uniqueness and personal ownership of percepts, concepts, and feelings. The Advance of the Personal has, we may therefore conclude, met no objection which is able to stay it.¹ The worlds of individuals are microcosms, or small universes, which evolve side by side, yet never mingle in a literal sense. Each individual is, however,

¹ When we come to realize that the individual is more than his changing field of experience, this conclusion will be strengthened and at the same time seen in clearer light.

sure there are other minds and that he can communicate with them. There can be no doubt that this belief is justified and that the facts which support it are very intimate and tremendously important for the higher reaches of the individual's experience. But the theory of knowledge implicit in Natural Realism is too simple to account for the essential uniqueness of the content of the world as experienced by different persons. Commonness is forced to give way to correspondence. What, then, is knowledge? We have already begun to suspect that knowledge is not the actual presence of identical elements to different minds.

Evidently mental pluralism is a reflective advance upon Natural Realism, but is not a final position. It should be regarded as a new and higher outlook which enables us to propound the proper questions to epistemology. Hence, mental pluralism, as here presented, must not be confused with pluralistic idealism. I shall now proceed to examine in detail the structure of the field of the individual's experience for the light it will throw on the nature of knowledge.

CHAPTER IV

THE FIELD OF THE INDIVIDUAL'S EXPERIENCE

THE mental pluralism at which we have arrived as a result of the Advance of the Personal is purely empirical in character. One point to the exclusion of all others was attended to, *viz.*, the uniqueness and numerical distinctness of an individual's experiences. Problems concerning the structure of the total field of the individual's experience must now be taken up and closely studied.

Let us, first of all, examine the interrelations of the distinguishable elements of the field. Does any element play a dominant rôle so that it can be regarded as a sort of king among the others? In the past, philosophers have nearly always selected the self and given it such preëminence. For idealism, as a rule, the rest of experience depends upon the self as the dynamic centre of experience. Berkeley, for example, makes the self the active and creative pole of experience; and Kant traces back the unity characteristic of experience to the Transcendental Ego. Of late, this type of theory has been severely criticised as untrue to the facts and founded on *a priori* notions rather than on empirical analysis. The "self" of these theories is too much of a metaphysical entity external to, although supposedly explanatory of, the actual field of experience. Emphasis has shifted from substances to processes within experience. There is even the suspicion that the unity of experience depends as much on the objects as on the self. The old, monarchical simplicity has given way before the realization of the democratic organization of that which is actually given. The view which we wish to champion can be brought out most clearly by means of a historical approach. This will be made as brief as possible pursuant to our object.

"What," asks Berkeley, "do we perceive besides our own ideas or sensations? and is it not plainly repugnant that any of these, or any combination of them, should exist

unperceived?" (*Principles of Human Knowledge*, sec. 4.) For him, perception is an operation which involves an active being variously called mind, spirit, soul, and self. When we examine these terms more closely, we are struck by the vagueness with which they are used. Berkeley does not distinguish clearly enough between what is immediately experienced and what is inferred, between fact and theory. As a result of centuries of reflection, the modern scientist has become convinced that a sharp separation of fact and theory is a prerequisite of advance. Otherwise theory usurps the place of fact, and prejudices dictate a closed dogmatic system. The philosopher must harken to this conclusion of science and seek patiently for the facts before he erects his theory. Let us note in what way Berkeley falls short of this method. To be just to him we must, of course, remember the time in which he wrote.

Sometimes a semi-empirical view-point dominates in Berkeley, and the self is spoken of as an active agent of which the individual has an intuition or notion. Yet he does not say whether we always have an intuition of the self while we are perceiving. At other times, his outlook is metaphysical,—in the precritical sense of that term,—and the mind is held to be an active spiritual substance in which ideas exist. In this connection, we catch glimpses of Platonic and scholastic psychology. Were we asked to give a cross-section of the field of the individual's experience according to Berkeley's system, we should find difficulty in deciding what to include. He does not seem to assert that the notion of the spirit always accompanies the operation of perceiving and the spirit itself is essentially an entity which God acts upon to produce "ideas." On the other hand, in the *Principles* at least, he maintains that the notion of the mental operation is always present and cannot be abstracted from. "To have an idea," he asserts, "is all one as to perceive." We shall see later that he is not quite certain what he means by this statement. Is he referring to an experienced connection or to an explanatory relation? Again, there is a realistic note in his treatment of the self and its activities. The notion of the operation of the mind is evidently not identical with the operation itself.

To be is not, in this case or in the case of the self, to have a notion of. He takes a realistic attitude toward the self and its activities quite different from the idealistic attitude he takes toward the ideas. We have examined Berkeley in this detail in order to bring out certain ambiguities in his teaching.

The extrusion of a dominant, substantive self or spirit and its operations from the field of the individual's experience prepares the way for an empirical analysis of that field as free as possible from presuppositions. We are not begging the question of whether there is a relatively permanent self which acts and which we can *know*, but are only desirous of starting with what is actually experienced. The first question which logically presents itself concerns the empirical unity of the field. That the field of the individual's experience has a unity, nearly everyone admits; there is, however, no general agreement as to what this unity is due or as to its extent and nature. To explain the unity of experience was part of Kant's task; but it cannot be said that he accomplished it. The Transcendental Ego to which he makes appeal is an element without experience; hence, the unity is a gift from outside. Many present-day writers hold that the unity of the field is due to synthetic processes within its own borders. Such continuities and relations as are experienced are not contributed by a self which exists independently, but arise naturally within what is a continuum from the first. The chaos of sense-material with which Kant started is looked upon by these thinkers as mythological. But, if this be the case, the relations which the understanding, as a separate faculty, is supposed to contribute are empirical. The result is that the individual's experience is regarded as self-evolving and as requiring no contributions from outside. This does not mean that experiencing is self-sustaining but that it is more like an organism than like a tapestry manufactured by activities alien to its content. In other words, the processes which lead to the more complex forms of unity are immanent, and their essential features can be traced. The tendency toward unity in judgment and in reasoning is on a level which makes it open to observation. When we examine

these closely we find that, instead of dictation by a self, the characteristic of these processes is determination by the objects. The truth is that Kant started with a dualism between sense and reason and was never able to see the growth of experience as it actually is. His theory got between him and the facts. The only way to do is to make a clean slate of his distinctions and to trace the growth of experience from stage to stage in order to discover what processes arise and to decide whether they require the assumption of a synthetic ego.

There are two directions or dimensions in experience which demand examination. The one may be called the coexistential, the other the temporal. The coexistential dimension concerns the structure of the field at any one time and the character of the relations which connect those elements which are somehow present together. When we scrutinize the coexistential dimension¹ of an individual's experience, we have to do with a cross-section. Its stability may be of a dynamic sort, like that of a wave whose material is constantly changing. Hence, the information we gain from the coexistential front offered by the individual's experience must be supplemented by a study of the temporal dimension. Elements and structures which present themselves as primitive or ultimate in the coexistential field may, when so studied, be revealed as products.

In the preceding chapters we have had frequent occasion to emphasize the close connection which reflection indicates between purpose and the object perceived. This dependence is not perceptually apparent and, therefore, escapes the practical man. A definite end to be achieved dominates his outlook and crowds aside any latent tendency to observe concomitant variations within the field of consciousness. Not the selecting nor the factors which do the selecting, but the result, occupies the focus of attention. We are naturally outward-looking and this means result-seeking. The factors which control the perceptual field consist of ideas and of interests which function more or less unconsciously. We do not always know why certain features of the landscape

¹ Temporalists, such as Bergson, have done fair justice to the temporal dimension of experience, while the "New Realists" have emphasized the coexistential dimension. What neither group has adequately realized is that these two dimensions must be taken together.

attracted our attention while others remained practically unnoticed. We seem to move within a world of objects some of which capture our regard while others do not and, consequently, remain in the background like obscure persons in an audience-room. But to describe the apparent externality and givenness of the individual's thing-experiences is to repeat what Natural Realism claims to be ultimate fact. It is ultimate fact as a description of the position and status of objects in the coexistential field. This status involves the presence of meanings and of a structure comparable to that which velocity of rotation gives to a vortex. The Kantian seeks to derive these meanings and this structure from the self. But the derivation is as verbal as that of consciousness from the soul. When experiencing is connected with an organism seeking to adapt itself to its environment, a more plausible basis for these meanings and distinctions presents itself. Of this we shall have more to say later.

It has been a mistake of the convinced idealist to read into the coexistential field relations and dependencies which are the conclusions of reflective analysis. To discover that objects are thing-experiences, or percepts, and therefore within the unity of the individual's field of experience, and to assert, upon this discovery as a foundation, that a unique relation between the self and these objects is actually experienced, is an example of what I mean. Such an *a priori* account of the field is to be sharply distinguished from the result of an empirical examination. No object, it is said, can be experienced without a subject, and no subject without an object. It is further maintained that a unique relation connects subject and object. As a matter of fact, the individual's field of experience, under ordinary conditions at least, approaches the form of a "frequency-surface" in statistics. One part dominates the rest for the time being and the other elements slope off in a spatial or semi-spatial coexistence. When the field is predominantly perceptual in character, the object attended to is seen in its spatial relations to the surrounding objects and to the percipient's body, while other non-physical elements cluster vaguely around as somehow "together" with the body; yet, the whole field is experienced

as present together, and space seems to offer no barrier to this simultaneity. The attention can hold in unity thing and idea, or thing and thing indifferently. The basic form of unity of coexistence in the field is togetherness. Within this comprehensive, or elementary, continuity more specialized relations develop. Certain of these we must study with care after we have considered the teaching of the temporal dimension.

The coexistential dimension of experience must be confronted with the teaching of the temporal dimension. A critical examination which deals with process rather than with mere result has forced thinkers to qualify the foregoing description of the empirical unity of the field of experience. More disinterested inspection in which comparison between different moments of time is employed, has brought out the fact that the relations between elements in experience are not so external as they appear to the individual. He pays attention only to the finished result. Correlations and concomitant variations in consciousness escape attention just as easily as they do in what science calls the physical world. Psychology traces the process, while common sense looks to the result. Now psychology has formulated and proved to its satisfaction certain of these genetic or internal relations. The law of relativity as applied within the field of consciousness is a good example of what I have in mind. "From the moment of its first coming into being, the existence and properties of a sensation are determined by its relation to other sensations." (Höfding, *Outlines of Psychology*, p. 114.) What I have called perceptual perspective is another instance. It is wrong to appeal from these inductions to the formal externality and togetherness of things in the plain man's field of experience. What is needed is an outlook which comprehends both dimensions, process as well as result.

It is not our purpose to ask at this point whether psychology is realistic like the other sciences and assumes that factors are at work which are not revealed on the surface. This much, however, is certain, that reflection and analysis are necessary to the discovery and formulation of the synthetic tendencies and processes which underlie the coexistential field. We have hinted that correlations of variables can be found within this

concrete togetherness. Psychology, for example, stresses ever more strongly the selective nature of what it calls attention. When this term is used empirically and not facultatively, it stands for variations in the clearness of objects and even for their presence or absence in accordance with changes in interests.

In attention we have to do with a selective and inhibitive process in which things are held in systematic relation under the dominance of a purpose or plan. The internal relations of such a system reveal themselves both in the clearness of the parts and in the aspects distinguished. It is only as the progressive movement of a system which contains and generates its own control that attention can be understood. At least, this is true of voluntary and non-voluntary attention. In involuntary attention, there is felt to be determination by a part of the field in spite of the fact that the flow of the field has had another direction. In voluntary attention, the individual experiences a control according to the ends which he sets for himself. There is thus a feeling of spontaneity which is connected with the self. Working along this temporal line, the psychologist has become convinced that the whole past experience of the individual somehow conditions the coexistential dimension of the field of any moment. Does not this conclusion suggest that the externalities which impose upon common sense are results and are illusory when taken as Natural Realism understands them? The field of the individual's experience is a palpitating unity of which the only overt and constantly present sign is that which I have designated the togetherness of the elements. This result is important not only for its own sake but also from the fact that it corroborates the Advance of the Personal and thus strengthens the empirical basis of mental pluralism.

Let us compare the position at which we have arrived with the view of the unity of experience championed by psychologists. The dualism of their terminology must be interpreted and discounted, but, with the analysis of science and the compromise entertained in regard to perception fresh in mind, this interpretation need offer no insuperable difficulty. James points out that the actual object of thought is very

complex and yet a unity. "But the *Object* of your thought is really its entire content or deliverance, neither more nor less. It is a vicious use of speech to take out a substantive kernel from its content and call that its object; and it is an equally vicious use of speech to add a substantive kernel not articulately included in its content, and to call that its object." (*Principles of Psychology*, Vol. I., p. 275.) Common sense always tends to harden and to simplify the field of experience. Other thinkers have noted and stressed the organization of the field. James Ward, for instance, asserts that all concrete experience manifests a centrality and an organization. To account for this synthetic unity, he calls attention to the part played by practical interests; the individual's consciousness is conative as well as cognitive. Many other references to the advocacy of similar doctrines could be given, but these are, I think, sufficient. They must not be understood by the reader as appeals to authority; they are only statements of opinion which are worthy of consideration.

The formal, or elementary, unity of togetherness is the precondition of the superposed unities of all grades which arise within the total field. These rest, as it were, on the surface of this elementary unity. With the consideration of these, we enter upon the problem of the self as the knower of the elements in the formal unity of experience. But we must first examine the distinctions which are characteristic of the coexistential field.

Within the field of his experience, the individual contrasts two types of existence. These may be called the sphere of objects known and the psychical, or mental, sphere respectively. Because the plain man is dominated by practical interests, the sphere of objects known consists for him chiefly of physical things. However, he is realistic and looks upon these physical things as independent of the event or act of perception. We have seen that he is mistaken in this view when it is taken literally, and we are therefore compelled to regard this contrast as an empirical one, which, for discoverable reasons, has developed within the field of experience. The scientist carries the analysis and organization of the sphere of objects known to its maximum; but each scientist as he does

this remains within the personal. The attitude taken toward this sphere of objects known is that of cognition or acknowledgment; it is considered independent of the mind of the individual knower. When the attitude of cognition is taken toward a part of the field, that part is supposed by the individual to be removed from subjective influences and is so qualified. In the preceding chapters, we have already noted certain difficulties which arise.

What is the "mind" as contrasted with the sphere of objects known? And what are subjective influences? We are convinced that this contrast is one within the field of the individual's experience. Psychology, logic, and philosophy have spent much time in the attempt to get a clear idea of mind; yet the term remains vague. Let us see if we can master the confusion of standpoints and draw definite conclusions from the analyses made by these disciplines.

For the plain man, "mind" is a term for the inner sphere, and the contents of the inner sphere are rather heterogeneous. There are ideas and feelings and processes and acts, and these run parallel with the world of things known. The psychologist starts with the mind as thus conceived and is soon led to extend it to percepts and concepts. Immediately, it runs foul of the problem of knowledge. The result is a compromise (*cf.* Chap. II). Psychology at its best divides the mind into processes, attitudes, objects, and content. An example of a mental process is reasoning, of an attitude is belief, of an object is an idea, of content is sensation. By means of introspection, aided by retrospection or a quick reviewing memory, such processes, attitudes, objects, and content can be analyzed. It is not our purpose to study the methods adopted by psychology to achieve its ends, but to use the results so far as they appeal to us as sound.

Now, psychology analyzes that which occurs in the mind during the event of perceiving or of thinking about an object. The scientist, or the epistemologist even, may be inclined to hold that there is a unique mental act to be called cognition which terminates on the object known. This is the case because his interest lies in the object, and the mental side escapes attention. The psychologist introspects and discovers

that the act is more a process staged within the structure of an attitude than an *actus purus* of an entity called the mind. The coexistential dimension is blurred, as it were, at the mental pole. It is ordinarily dominated by meanings of a realistic character, and these assist in throwing the inner sphere into the background. When the method of introspection is employed to correct this tendency, the scope of attention must be enlarged beyond its customary limits; and training is required to make this possible.

We are now in a position to answer the questions we asked a while ago. "Mind" and "mental" have a broader and a narrower meaning. The mental is that which is opposed to the object known and is usually thought of as an act of the self. Presentative realists who look upon the object known as independent of the mind take the mind and the mental in this narrower sense. Because the object is one, they tend to regard the mental as an act of intuition simple in its nature somehow terminating on or apprehending the object. There are really two reasons for this conclusion. First, the simplicity of the function is reflected into the act which is supposed to perform it; and, secondly, the lack of introspective content permits reflection to be guided by a word. We apprehend an object; must not the act be one just as the term is? Presentative realism represents the testimony of the coexistential field as this is narrowed to a brief time-interval. It corresponds to a snap-shot in which the sphere of objects known is emphasized. When the temporal dimension is introduced more fully, the mental act is seen to be a process involving an attitude toward an object which secures definition at the same time. We rest satisfied with the process when this definition is attained, and it is at this stage that presentative realisms always take a cross-section of the field. We shall take up this problem of the character of apprehension from another standpoint in the next chapter.

But the object known, desired, or chosen exists in the field of the individual's experience if our previous arguments are valid. Hence, these also can be regarded as mental in a broader use of that term. When the mental is enlarged to include objects as well as the psychical processes or acts which

are inseparable from them, we see the logical result of the Advance of the Personal. Objects are products of mental processes toward which certain attitudes are taken. We have no hesitation in extending the term "mental" to the whole field. The psychologist, also, is inclined to do this, but respect for the postulates and achievements of the other special sciences holds him back. We may conclude, then, that the objects which are contrasted with the subjective, or mental, processes which terminate on them are constructs and exist in the field of the individual's experience only, although the individual regards them as independent. Independence of psychical processes is interpreted as independence of mind; but these objects are still mental in the broader sense of the term.

It is evident that the term "mental process" is used in two different senses just as the term "mental" is. A thing-experience, for instance, is the product of processes such as association, since past experience adds itself to the sensational nucleus due to the stimulation of the sense-organs. A concept is likewise a product; it involves the organization of a wide range of experience. But these mental processes are not experienced by the individual as processes. It is the product alone that presents itself to view. Now, this product offers itself as an object of those subjective processes, such as thinking and choosing, which are directly experienced as along with it in the field. Both are mental, but they are different species of the mental. It is because of this difference in character that the object is taken by common sense to be non-mental.

We are at last able to decide the nature and the extent of the unity of the field of experience. Our study of the temporal dimension convinced us that active processes condition the whole field. Whatever presents itself in the coexistential dimension is a product, even though it masquerades as an independent object. Some of these active processes are immediately experienced, while others are so simple and habitual that they occur below the threshold of observation and can be known about only indirectly.¹ Perceptual objects

¹ We may call these processes reflective and subreflective respectively.

are products of processes of this latter character. Processes of a character open to inspection thus develop within a total field which is already organized. The consequence is a contrast which is instinctively taken as absolute. These conscious processes work within a field whose elements are relatively external one to another. Now, togetherness is the dominant note of this lower level, yet I doubt whether the total field ever sinks to the level of mere felt coexistence. In adult life, at least, plans, purposes, and problems dominate the field and determine more internal relations; yet these more internal relations consequent upon conscious processes are experienced as arising naturally from the field. The ideal of thought is to let the material speak for itself, and it is surprising to what an extent this actually occurs. By means of such synthetic processes as judgment and inference, the various parts of the field secure more intimate commerce with one another than perception alone makes possible. Thus higher unities are built up on the lower unity of togetherness as a basis.

It must be kept in mind that there are different levels in the field of experience and that these act as controls of one another. The synthesis which results in thing-experiences is unconscious for the individual, and any further addition is guided more by trial and error than by reflective thought. The more conscious processes of the higher levels, such as reasoning, work within this situation and hold themselves responsible to the distinctions found there. The emphasis laid by science upon observation illustrates this fact. The current view that the laws of thought are also laws of things also exemplifies the point we are seeking to make.

When we come to examine those conscious processes which are called mental or psychical, we find that they fall roughly into two classes. Certain mental processes, such as reasoning, are more distinctly temporal. They concern themselves with the interpretation and reconstruction of the objects in the field and are, as it were, immersed in the sphere of objects known. Other mental processes belong more definitely to the coexistential field. These processes are called subjective and involve an attitude toward objects supposedly given.

I wish an object or think about it or believe in its existence. These processes, because they are shorter in duration and are outward-looking in direction are more apt to be considered acts.

Let us compare the results of our analysis with the position championed by Hume. We shall, with Hume, take physical objects as typical of the sphere of objects known. The plain man, as Hume points out, regards physical things as independent of one another. "But this table, which is present to me, and that chimney, may and do exist separately. This is the doctrine of the vulgar and implies no contradiction." In other words, spatial relations are considered external. We must remember that the scientist would qualify this externality by the assertion of the presence of gravitational and other connective energies. What Hume had in mind can be best understood by an examination of the section he devotes to relations. The philosopher calls distance a relation; the plain man identifies it with lack of relation. Now, argues Hume, the philosophers have shown that this table and that chimney are only particular perceptions. Therefore, we can extend the doctrine of separate existence to all perceptions. (Cf. *Treatise*, Appendix.)

Hume's mistake consists in the confusion of the characteristics of the *sphere of objects known* with the characteristics of the *total field* within which those objects exist. He wishes to reduce the total field to the domain of objects and thus to universalize the features of this domain. The truth is that Hume attacks the position that objects inhere in a subject or substance, and he falls into the other extreme of denying the unity of the field of experience. ("In general, the following reasoning seems satisfactory. All ideas are borrowed from preceding perceptions. Our ideas of objects, therefore, are derived from that source. Consequently no proposition can be intelligible or consistent with regard to objects, which is not so with regard to perceptions. But 'tis intelligible and consistent to say that objects exist distinct and independent without any common, *simple* substance or subject of inhesion. This proposition, therefore, can never be absurd with regard to perceptions." *Treatise*.) We, also, hold that there

is no subject-object of inhesion, but that objects coexist with psychical processes in a field which is sustained by temporal processes of a fundamental character. It is a mistake, moreover, to extend the attributes of the object to the total field of which they are only a part. This is what Hume does, although he rightly regards these objects as mental. The total field of the individual's experience is the complex unity of which we must catch a clear vision. The principles which describe the growth and interdependency of the elements of this concrete unity are developed by logic and psychology. The laws which concern any particular system of "objects known" which is built up within the field are treated by a special science. The systems of objects thus found in the coexistential field as contrasted with the attitude taken by the individual toward them, have their own meanings and characteristic relations, which are quite different from those that hold for the whole field. Not to recognize this fact was Hume's error. A system of mathematical knowledge is one thing; a system of chemical knowledge is another. In the former we have relations, in and between our objects of a spatial kind; in the latter the relations observed are spatial and causal. But these objects and this knowledge exist in a unity which contains them and the personal attitude which is set over against them.

We are now in a position to examine the rôle played by the self in the field of experience. When we examined the temporal dimension of experience, we became convinced that the elementary unity of the field was the result of processes of association intimately linked with purposes. The unit seems to be the sensori-motor arc, and this is widened as reactions become less immediate and interpretation by means of ideas is required. The field of experience broadens as time goes on and assumes a definite structure in which things more or less familiar are set over against the self and its desires. The interesting fact to note is that this development runs parallel with the growth of the self. As the self grows, it becomes increasingly the centre of the field of experience. It selects among the objects which stand over against it and looks upon them in the light of ideas and of purposes. The

more voluntary attention displaces involuntary attention, the more the self feels itself the master. And this feeling persists in non-voluntary attention when interests and habits of a recognized standing control the field. The consequence of this active centrality of the self is the ever-more-conscious growth of a unity of a higher level within the formal or elementary unity of the field. This concrete unity is due to the crystallization of the field about the self.

But we must study the self which comes to dominate the field of the individual's experience. Only when this is done, can we understand why the self secures its prominence.

We must distinguish, first of all, between the self as an object of thought and the self as an immediate experience present along with, and expressing itself in, the subjective processes. The self as an object of thought is often very complex; it is full of knowledge *about* the individual. I know myself in large part as others know me. My name, position, appearance, character, past history are all interwoven to make my self as known. I contrast this self which I and others call *my* self with other selves. It is evident that this self is a construction in the field of my experience when I think about my self. There are other objects present in the same field which I label other selves. As has been pointed out frequently of late, these selves develop together. The child judges the conduct and personal appearance of a playmate, and this judgment reacts on its conception of itself. There is nothing mysterious about the self as object or as "me," and it evidently does not involve the existence of a peculiar substance. This object-self¹ is permanent much as physical things are. We recognize our bodies and our names and our occupations just as we recognize familiar things. Sameness qualifies the self just as it qualifies ideas or meanings or things. Psychology finds that the nature of recognition does not vary from one field to another. In truth, it is very probable that the assurance of personal identity depends in large measure upon the sameness of the objects with which we deal. Were our surroundings to be changed

¹ Knowledge about the self as "me" is quite obviously achieved in the same logical way as knowledge about physical things. We shall find that the epistemological problem is essentially the same for both.

from day to day so that we could not fall into easy habits of adaptation, we should lose much of the sense of personal identity. There are many popular tales which illustrate this problem of identity, among them the story of the caliph who plays a joke on a poor porter by having him transported to a palace, dressed in fine clothes and treated as if he were a lord. At once the poor man becomes bewildered and begins to doubt his identity. In opposition to the position that the identity of the self gives unity to the world, we may say that the unity of the world of things aids us to achieve our own unity and identity. It would be false, however, to go to the other extreme and derive the unity and identity of the self from the continuity and sameness of the things around the body. It must be remembered that, when we speak of things and of other selves, we refer to them as objects within the field of the individual's experience. This fact does not prevent the individual from taking, ordinarily, an entirely realistic attitude toward them.

But the sense of personal identity is a function of the sameness of the body as well as of familiar things in general. And not only of the body as an ever-present thing-experience but also as the seat of a continuous flow of sensations and feelings. Psychiatry has brought to the front the importance of a core of persistent similarity in the organic sensations of the individual. When these are radically changed, the individual may speak of himself as dead. Even normal individuals may experience a sense of alienness when these vital feelings are temporarily modified by sickness. We say that we do not feel like ourselves. This means that there is a comparison between the present flow of sensations and that to which we are accustomed. The comparison may be vague and not consist in much more than a sense of discomfort and of strangeness. But, so long as memory is unaffected and things and ideas are recognized, this change in the vital feelings is not enough to alter the personality. The importance of the bodily feelings lies in the fact that they qualify those subjective processes which are in antithesis to objects. These processes which are so characteristic of the duality in the coexistential dimension are experienced as imbedded in an end-term which

they express. It is the subject-self which is immediately experienced as that which desires or thinks or wills. Let us see whether it is possible to analyze this subject-self more fully.

The danger which confronts reflection is to read into the subject-self more than is there under ordinary conditions. When the individual is immersed in the things around his body, the subject-self is not much more than the felt presence of the body as present with the things observed and as somehow the source of whatever activity is involved. It is the body as a centre of control and of motor dispositions. At such a time, subjective processes are at a minimum. For this level, to which we all drop now and then, the subject-self is a bodily self tingling with motor potentialities, *i. e.*, with attitudes and recurrent tendencies to movement. Probably, breathing, eye-movements, kinaesthetic sensations, and a dim sense of purpose merge together and set themselves over against the things which attract our attention. All this is experienced as familiar; and no wonder, seeing how long we have been at work training, guiding, and controlling our bodies.

At other times, the subject-self is enlarged by the presence, along with the bodily self, of plans and purposes and ideas. The individual is aware that he can direct his thoughts this way or that, and that he can adopt as his own certain ideals of conduct. The mental processes of preparation which occupy the mind before any overt act is performed are colored by the sense of spontaneity and rest upon the familiar bodily feelings and the ever-recurrent touches of memory. I feel certain that it is the recognition of meanings, of objects, of ideals, the sense of familiar bodily presence, the continuity of past and present mediated by memory, and the growing realization of choice that give the content of the "I." It is a mistake to seek to find a unique element which can be isolated from the complex process of the inner sphere of the field. The "I" is the process itself as somehow having a unity in opposition to the rest of the field. Very often the not-self fades into a sort of background dimly shadowing the turbulent changes going on in the inner sphere.

This subject-self, whose content may be so various, is

tinged by a feeling which we all recognize. This feeling may be called the I-feeling. Undoubtedly, it is a product, but no individual while he is normal finds himself without it. It is impossible to describe it, since description implies analysis. It is analogous to the reality-feeling to which psychologists have called attention. This I-feeling is more like a sentiment or a mood than an emotion, although, when the individual feels himself affronted, it swells like a summer torrent and incorporates itself in the emotion of anger which ensues. Another way in which to approach the I-feeling is to examine the objects which call it forth. Things which we possess and cherish have this capacity of arousing the sense of self to the greatest extent. They excite a feeling of possession which varies with the value of a sentimental sort which we attach to the object.

But we are not interested in the various grades of the sentiment of the self. The indication of the kinds of self-feeling which are to be found in different types of persons is the task of social psychology and of ethics rather than of epistemology. All that we need to note is that this sense of self may be refined and delicate or may be harsh and crude.

When we come to examine the higher ranges of thinking and acting, the subject-self turns out to be a central and well-organized part of the field of the individual's experience which is haloed by the my-feeling and is the decisive standard for plans, judgments, and decisions of all sorts. The spontaneity which we all experience at such moments seems to be directed by this system of ideas and values, much as an army is controlled by its general. Here is the centre of decision, the creative spring of activity, from which subjective processes take their rise; and, as the tension increases when the valley of decision is reached, the "I" stands out ever more clearly as that which must decide. When the self is stable, it consists of ideals, of norms of duty, a knowledge of what one is capable of, and a decent self-respect. Thus the "me" is absorbed by the subject-self to form part of the "I," the difference between them being not so much that of content as that of function. It is this immediately experienced self that remembers and appropriates that which is remembered,

that wills and contrasts itself with the not-self which it desires to change, that knows and distinguishes itself from that which is known. The "I" is, however, not a stable entity. It enlarges itself at times with the full content of the "me," and at other times diminishes to not much more than the felt bodily presence. Always it differs from the "me" as an object of thought by the fact that it belongs to the subject side of the duality and is qualified by the sense of control which is seldom, if ever, absent. The "I" can absorb the "me," but the "me" alone is too passive to constitute the "I."

Probably, the best way in which to bring out the consequences of the foregoing analysis is to consider the question, Is the individual always self-conscious? The term "self-conscious," is ambiguous. It seems to me best to differentiate between self-consciousness and consciousness of self. Consciousness of self is awareness of self as an object. This self of which I am aware may be the empirical "me" which is supposedly open to the knowledge of other individuals. It is generally granted that my friends may know my character and capabilities and personal appearance as well as I myself do. The self as object is as common as any other object, and we naturally take the same realistic attitude toward it. It is this sort of self which goes by the name of the individual in history. We speak of the character of Cicero or of Cato and seek to set it in the context of the ethos of the time. We add to the character as thus judged the knowledge we possess of the life of the individual. All this is objective and belongs to the sphere of objects known as common. But the individual cherishes the conviction that the self as common object of knowledge should be qualified by information which he alone possesses. He is conscious of his motives and the exact circumstances which led him to act in such and such a way. Such information is felt to be private; other persons must depend on inference or on his assertions, while he remembers what his motives were. With remembrance, we come to the essentially private nature of part of the self. It will be best to limit ourselves to the self of introspection for the time being and to leave the problem of the identity of the self

through change until we have reached an agreement in regard to self-consciousness and consciousness of self.

The self of which we are conscious in introspection is the subject-self of the previous moment. We can recall our attitude, the dominant ideas and purposes associated with the sense of control, and the background of the bodily self in which these are incarnated. These are the objects of which we are conscious in a quick-reviewing memory. But introspection implies a control-self dominated by the purpose which guides memory and its association processes. Hence, introspective consciousness of self is always private, although the results may be communicated by means of language. The self of which the individual is conscious is now an object, while it purports to be the subject-self of the previous moment. It must be kept in mind that the self of which we are conscious in introspection when this is the case is only part of what is potentially open to introspection. The whole field of the individual's experience is theoretically open to introspective memory. This much must suffice for the self of which we are conscious in introspection and for the self which we know in common with others.

But self-consciousness is different from consciousness of self. There are degrees of self-consciousness. I mean that the subject-self of the moment may be more or less prominent and more or less highly developed. In ordinary perception, it may not be much more than the sense of bodily presence and the feeling of control and of a vague purpose. In moments of decision, the subject-self may be very complex and consist of stable elements in changing relations to merely suggested plans, the whole rooted in a felt process of determination suffused with the I-feeling. Such a subject-self may bulk very large in the field of experience and almost crowd out the other elements. We often lose sight of our surroundings at such moments. This is self-consciousness in the best sense of that term. The "me" flows into and merges with the "I" and gives it ideational content.

A word or two must be said about self-consciousness in the derogatory sense of the term. A nervous youth becomes self-conscious when he enters a drawing-room where a number

of persons are assembled. This means that he becomes aware of his clothing and of the carriage of his body and thinks of what opinions those who are present may form of him. Such a self-consciousness is a sort of social consciousness in which the "me" is felt to be under fire. The characteristic feature of this condition is the obstruction of clear thinking and acting which it brings in its wake. The result is a chaotic state of ideas and feelings in which the sense of self throbs like a recurrent pain.

We have lingered over the self, partly because the topic is so fundamental and partly because the term is used in so many different ways. Thus far the self has turned out to be quite empirical. We have seen no reason to postulate a spiritual substance or to call in a Transcendental Ego. The unity and identity of the subject-self are based on the I-feeling and on the familiarity of the body, the organic sensations, and the ideas and ideals which are associated with it. In large measure, also, it rests on the recognition of the things to which it is opposed, as objects to be dealt with in various ways. The higher the level of self-consciousness, the more the sameness of the ideational content absorbed into the "I" by means of the "me" gives identity to the self. The unity, on the other hand, is essentially functional in character, and reflects the organization of habits and motor dispositions and the harmony of tendencies of all sorts which is the product of past activities and decisions. Thus the unity of the subject-self is a creation of the individual based on those instinctive unities which he receives as an inheritance. Like character, it is a growth. The "me" which enters into the "I" is obviously empirical. Its unity and identity do not differ in the least in their basis and nature from that of our ideas of other selves. These are objects which are notoriously constructs.¹ They are, in large measure, social in their genesis and implications, yet the "me" always has a context of elements in its constitution which are qualified as private. We may say, then, that the self grows up with its objects in the temporal dimension of the field of the individual's experience.

¹ While we have knowledge about other selves, this knowledge involves no literal participation in their experiences. On this point, also, I am opposed to the "New Realism."

The identity of the self through time has caused unnecessary difficulty to many thinkers. When I think of myself as an object, one of the chief characteristics of that object is its persistence. I know that I am some thirty-odd years old and that I have passed through a certain physical and intellectual development. But I know that other individuals have similarly lived and developed. Indeed, this characteristic is not confined to persons, for trees have their history as well. There is not the least doubt that we can think of objects in this fashion as existing through time. Let us take an inanimate object such as a building and ask ourselves what we mean by identity through time and how we are able to think it. The question is purely empirical in its nature and must not be thought to beg any metaphysical difficulty as to the thinkableness of change. It seems to me that we remember the object which we now recognize as having been in some place at a time in the past. The nature of the object which thus persists is supposed to be given in perception. There are two motives at work to determine our ability to think of persistence through time. The first and more obvious one is recognition. The object is suffused with a sense of sameness. But man has a dated memory and a conception of time intervals. Hence, recognition is interpreted by means of the meaning of persistence, so that it becomes merely the testimony for this persistence. We pointed out in our analysis of Natural Realism that objects are experienced as permanent from the first and not as transient. But why are they experienced as permanent? For the simple reason that, given the conditions of perception, transiency is a harder meaning to develop than permanence. Perception is closely connected through organic reactions to things, and these things perceived are experienced as those to which we react. They are, therefore, as real as we are. What is more natural than that our sense of sameness through change should also qualify them, especially since this attitude is supported by recognition?

The question now is, What is this sense of sameness which suffuses the individual based on? We have already answered it in large measure. I wish, however, to call attention to the

fact that a sense of difference would be harder to account for than a sense of sameness. It is too often assumed that discontinuity is more natural than continuity. That may be the case for reality, but it certainly is not so for experiencing. Difference is secondary to resemblance, and resemblance only slowly separates itself from felt sameness. Hence, the felt sameness of the self from moment to moment is based on continuity, and this continuity in turn on the resemblance of the elements on the subject side as well as the object side. Experienced sameness is one thing, changelessness is another. Because I feel myself to be the same as I was a moment ago, it does not follow that a changeless something persists through that time.

But the identity of the self is not merely felt from moment to moment; it is also thought over wide lapses of time by means of memory. I remember certain experiences I had in Milan a few years ago. This means that I now remember experiences that I, the "I" of a few years ago, had. In what sense, are these the same "I"? It must be noted that I remember the "I" as well as the experiences which I had. The relation between this past "I" and the experiences is similar to that which exists between the present "I" and its experiences. The "I" and the experiences are objects thought of as in this relation. The question thus comes to be, Why do we identify this "I" we remember with the present self? So far as I can see it is because the two selves have a similar content and can be connected by the remembrance of a chain of selves leading up to the present, and because the "I" is related to experiences which are themselves remembered. The process or fact of remembering is qualified as holding only for the experiences of the individual who remembers. It is in this regard that memory differs from knowledge as such and is only a species of knowledge. Now, so far as I can see, there is no need for any bond between my past experiences and my past subject-self and the present field of my experience. Memory is a present construction which claims to give us knowledge of what was but is no longer. Why we are able to have memory is, however, a problem which the field of experience as such does not seem to me capable of answering.

Any inexplicability concerns the basis of experiencing and not the empirical self.

Once we have freed ourselves from a false view of the identity of the self through time, we can indicate the demands which the true outlook brings in its wake. John Stuart Mill speaks of the "inexplicable tie which connects the present consciousness with the past one of which it reminds me," and asserts that this is "as near as I think we can get to a positive conception of the Self." "We are forced," he says, "to apprehend every part of the series as linked with the other parts by something in common, which is not the feelings themselves, any more than the succession of the feelings is the feelings themselves . . ." He is thus led to speak of a common and permanent element. (*Examination of Sir William Hamilton's Philosophy*, p. 263, fifth edition.) Such a position is perilously near that held by Thomas Hill Green. Let me state my objection to this argument of Mill as briefly as possible. I see no reason to believe that my present consciousness is connected with the past one of which it reminds me. Memory is not a revival of the past, but a knowledge about the past by means of the present. Therefore, there is no series of feelings which literally belong to different periods to be related by a self. The memory-process is empirical and above-board; like thought, it involves association and a production which comes to us as recognized. The only difference is that in memory the content recognized is dated and connected with the individual as he was in the past. All this is empirical fact; it is complex, no doubt, but in no sense inexplicable. However, it does leave a problem which empirical idealism such as Mill's cannot answer. The present does imply the conservation, in some form, of the past. Memory must have a basis. But such a basis cannot be found in either the subject-self or the object-self. When these are actual, they are elements in the field of the individual's experience and are temporal. We have here, in short, a challenge to the sufficiency of mental pluralism. The individual may be more than his changing field of experience.

Our work thus far has been, in the main, that of description and analysis. We have become convinced that the field of

the individual's experience is a unity of a concrete sort and that the coexistential dimension of this unity must be kept in touch with the temporal dimension. Psychology has devoted much of its energy to the temporal, or process, side of the field and has succeeded in proving that the unity is much more intimate than appears on the surface. The analysis of the coexistential dimension was especially interesting, because it led to a clearer understanding of the distinction between the sphere of objects known and the subject, or knower. The subjective, or psychical, processes which are apt to be thought of as acts of a relatively permanent self were seen to merge in the subject-self as a centre of control or spontaneity. For this reason, they are naturally experienced as mental in contrast with the objects upon which they terminate. We pointed out, however, that the whole field is mental and that the contrast between "mental" processes and acts and their objects lies within the mental in this broader sense.

In the next chapter, we shall apply the results of this better understanding of the field of experience to particular problems.

CHAPTER V

DISTINCTIONS WITHIN THE FIELD

IN ORDER that we may make assured progress in theory of knowledge, it is imperative that we become well acquainted with the distinctions characteristic of the field of the individual's experience. A slight misstep in this intricate domain may have disastrous consequences, much as a slight miscalculation in astronomy may lead the investigator far astray. We shall see that idealist and realist read the fundamental terms and contrasts of experience differently; yet, until there is a fair consensus of opinions on these points, more ultimate constructions must be shadowed in doubt. It will be our endeavor to examine the different interpretations of these basic distinctions with a view to a non-partisan determination of the facts.

I shall select as the problem which will best introduce us to our task the following: Do we, as a matter of fact, experience an act of perceiving when we have percepts or thing-experiences? Perception is typical of those events which idealists and immediate realists unite in calling knowledge. Later we shall see that there is another kind of knowledge besides this presentational sort; but for the present we shall confine ourselves to the problems which have arisen around it. Some thinkers maintain that it is possible to go to a lower level than perception and find the same contrast between the mental act and the object of the act. Mr. S. Alexander, for instance, speaks in the following assured manner: "Or go down lower than perception to sensation. In sensation we distinguish the sensing which is an act of consciousness from the sensum which is non-mental. The act of consciousness has no property of green, or sweet, or musical, or any other character which can strictly be said to be one of quality." (Aristotelian Society, *Proceedings*, 1910-11, p. 8.) The point is not important for me; and, as I wish to avoid dogmatism, I shall simply give the position to which I incline. I believe that the individual

perceives sensa. This means that sensa, or sense-qualities, are abstracted elements within the perceptual field. If anything, attention is more strained in the experience of sensa than in the perception of familiar things. Purpose and analytic attention are apparently the preconditions of such sensa. Fact and theory have been sadly mingled on this subject. Those who feel compelled to universalize the distinction between the act of awareness and the object of this act, naturally assume its presence from the beginning. Those who believe that this contrast develops within the field of the individual's experience for empirical reasons but is not primitive do not extend it farther down than introspection warrants. But introspection is easily warped by preconceptions, as the psychologist is the first to warn us. A compromise, therefore, seems best. Since those who hold that there is a mental act in sensation to be distinguished from its object, the *sensum*, maintain that this contrast exists also at higher levels, it will be advisable to begin analysis with these. We can then have common ground. What we desire is, first, an unbiased account of the coexistential field of the individual's experience when he has percepts, and, second, an explanation of this account. I fear that both idealists and realists have sought to advance a theory before they summed up the facts.

Under ordinary conditions, objects are continually arising in, and leaving, the field of observation. Suppose we take the instance of a traveler who is looking out upon an interesting landscape through the window of a fast-moving train. Rivers, forests, mountains, and cottages succeed one another in a continuous panorama. These things are new to him and engross his attention. Consequently, he is outward-looking and fairly lives among them. Probably he is barely conscious that he is sitting in the car and looking out upon the landscape. Let us now ask whether such a traveler is aware of an act of perceiving. If he were a psychologist, what would be revealed to his introspection? We must remember that introspection is apt to change the field and to render the individual more self-conscious. It will be best, therefore, to trust to what the psychologist really means by introspection, *viz.*, quick retrospection.

It seems to me that the individual will discover that the things dominated his field and that the remainder consisted of a vague background of bodily attitude and feelings—the subject-self at its lowest. This analysis would seem to exclude the successive mental acts of perception of which the immediate realist speaks.

As Hume pointed out, percept and thing coincide for common sense. This *thing* is contrasted with those feelings and ideas which the individual considers peculiarly his own. Along with the entrance of things into the field goes the realization that the individual plays a part in conditioning this entrance. We are not always so passive as in the instance referred to above. It is likely that eye-movements and head-movements and relative change of position qualify the sense of attention and enter as constituents in what is called the “perception of things.” The greater this sense of personal activity and the more definite the feeling of the importance, for the presence of things in the field, of the part played by the individual, the more such terms as “apprehension,” “consciousness of,” “awareness,” and “perceiving”, as referring to acts of the individual bearing upon the presence of objects, come into use. What we have here is a development which runs parallel with the growth of the meanings which characterize Natural Realism. We as individuals apprehend that which is common and independent. We shall see later that other motives enter to make the presence of things stand out as a *condition* to be contrasted with their absence. This condition of presence is naturally connected with the individual and quietly emphasizes those activities already noted and qualifies them.

We may say, then, that when an individual is engrossed in things, they are simply present along with a minimal degree of self-consciousness. When an individual directs his attention on things, he usually senses a certain amount of activity on his own part, and this lends itself to interpretation in the light of meanings and distinctions which have gradually grown up and become second nature to him. Hence, when the individual, becomes reflective and describes his experience, he does so by stating that he perceived or apprehended the objects in

question. It is natural for reflection to stress the more conscious experience. This conclusion of reflection is frequently carried on into perception, and we seek to take note of ourselves as perceiving things. "When I see the sun," writes Mr. Russell, "I am often aware of my seeing the sun; thus 'my seeing the sun' is an object with which I have immediate acquaintance." In other words, our attention tries to cover a larger domain. But what is this object called "seeing" which is suffused with the feeling of self? It is not a cognitive relation, but seems to stand for a sense of activity plus a belief in the necessity for something more. We must not be satisfied with a verbal description and the assurance that this object of acquaintance is mental; we must press on to discover what, exactly, these words symbolize. I am inclined to hold that they stand, in large measure, for a construction which is added by the plain man to his actual experience and which finds a support in those immediately enjoyed or experienced processes which run parallel to things in the field of experience.

It is the mistake of the psychologist, on the one hand, and of the epistemologist, on the other, to forget that the adult individual moves and thinks within a highly organized level of experience. It is impossible to penetrate by mere introspection into a virgin experience uninfluenced by the outlook on the world and the self which has gradually been built up. Common-sense theory is intertwined with psychical fact. With the assistance of reflection, we must try to remove these theories one by one and clear away their additions to what is undeniably given. In this connection, it is interesting to note that, when circumstances lead the individual to assign the initiative to the object, he asserts that it presented itself to him. And the fact that the presence of things in the field of the individual's experience is actually approached from these two opposite directions, so that the activity is now assigned to the individual and now to the things, confirms me in the belief that we have in mental apprehension, or awareness, a theory more than a fact.

Common sense accepts the dualism into which the field of experience divides itself on its coexistential side and does not

ask too curiously its conditions and meaning. Things are impersonal, common, and permanent; the person is, in a sense, one thing among others, yet there is for him an inner realm of ideas and feelings and mental processes present along with these things while distinguishable from them. Such mental processes as wishing, thinking about, choosing, and remembering involve an object which they terminate upon and revolve about. This complex whole is suffused with feeling like an atmosphere in which it lives. How natural it is to carry this contrast between the mental process and its central object down to perception! We have seen in part why we tend to do so. In what we call perception there is the contrast between the impersonal and common object and the relatively active individual who perceives. But what is this perceiving? In wishing or thinking about there is a very definite immediate experience of a mental process which occupies time and has analyzable elements. We do not depend in large measure upon a construction. This is far less the case in what we call perceiving. The mental process in contrast to the object is reduced to certain precedent activities and to a bodily attitude surrounding the subject-self. It is for this reason that perceiving is called by the immediate realists a mental act rather than a process.

We have to do with a sort of snap-shot of the structure of the coexistential dimension which does not do justice to the temporal dimension. Yet the psychologist will inform you that the percept is a construction which involves an interpretation on the part of the mind. He is concerned at this point with the temporal dimension and admits that this process of interpretation is simultaneous with the entrance of the percept into the field. It is only after this that the duality of the coexistential field is clearest. Thus we have two kinds of mental processes: the more primitive, which do not reveal themselves to the plain man very clearly, if at all; and the immediately experienced processes, which appear within the structure of the coexistential field and are consciously contrasted with the world of objects perceived and otherwise known. The confusion of these two kinds is dangerous to epistemology, especially when it is blended

with a mystical or non-empirical view of mind. In the preceding chapter we tried to keep a grip on the two dimensions in which they chiefly function and thus to see the structure of the field in the light of the processes which sustained it.

The realistic implication of the word "perception" can be brought out in another way. Objects are thought of as existing whether perceived or no. Thus perception refers to the openness of the domain of things to inspection. As the ability of the individual to attend to different portions of a supposedly independent world becomes associated with the mind as a system of processes and capacities more or less under the control of the self, the way is prepared for the development of a theory of this openness of things to observation. Common sense, we have seen, accepts the fact. But reflection is not satisfied with mere acceptance. The more the outer and the inner world are separated by reflection, the more does this openness become a problem and the more does stress tend to be laid upon the mind as the active source of a peculiar cognitive apprehension. The mind is even thought of as reaching out and somehow coming in contact with things independent of itself or, at least, of pointing toward them. Thus with the sharpening of the dualism characteristic of Natural Realism comes a theoretical interpretation of perception. Very often this interpretation claims to be no more than a description of fact. This is the case with Mr. Alexander. "I assume," he writes, "and will afterwards justify the assumption, that the table provokes in the thing called my mind the action of perceiving, stirs my consciousness into activity, and that it does so by acting causally on my brain. All this is theory. Fact is that mind is active as an act of consciousness, and the table is present along with it." (Aristotelian Society, *Proceedings*, 1910-11, p. 7.) He further states: "Realize that if of two things which are together, and can affect one another, one has the character of being consciousness, then you will understand that to be conscious of a thing is to be a consciousness and to have that consciousness evoked by that thing." It is evident that this outlook is built rather naïvely on what we have called Natural Realism.

The facts developed in the earlier chapters forced us to give up Natural Realism; the result was that we were led to hold that we perceived a percept and not a thing and that the contrast between consciousness and thing, upon which these thinkers lay so much stress, is one within the field of the individual's experience.

If the foregoing analyses be well-founded, it follows that the mental act of perceiving, or act of consciousness, is partly a construction. I mean that what is present on the subject-side is read in the light of an interpretation suggested to the thinker by the structure and meanings of that level of experience which is called Natural Realism. The realization of mental control combines with the activities of the body and the sense-organs to produce an immediate experience which can readily be interpreted as an act of perceiving. To this is added the power of words to cast their spell over the quickly changing consciousness of him who tries to introspect. The phrase "I perceive" easily dominates the outlook of the individual and misleads even painstaking introspection.

The status of immediate realism depends upon the acceptance of the distinction between the act of perceiving and the thing perceived. A recent criticism of Berkeley is based upon the assertion that Berkeley confused the thing apprehended with the act of apprehension. "Either of these," writes Mr. Russell, "might be called an 'idea'; probably either would have been called an idea by Berkeley." (*The Problems of Philosophy*, p. 66.) He suggests, in other words, that the mental character of the act is transferred to the things apprehended by an "unconscious equivocation." But only the act is mental in Mr. Russell's eyes. "The faculty of being acquainted with things other than itself is the main characteristic of a mind." Mind is evidently limited to these mental acts which are related to something other than the mind. Thus Mr. Russell asserts that "Acquaintance with objects essentially consists in a *relation between the mind and something other than the mind*; it is this that constitutes the mind's power of knowing things." In the chapter entitled, "An Examination of Idealism," we shall point out the fallacy of this postulate. At present we are concerned more with the

attack upon Berkeley. This attack displays such self-assurance that it demands investigation. Does Berkeley confuse these two things, the mental act and the thing apprehended?

In the *Principles*, Berkeley seems to have held that sensible things are in the mind only as they are perceived by it, and to have thought of perception as an operation. But in this book he never came to close quarters with perception as an operation. When he speaks of mental operations of which we have notions, he mentions *willing, loving, remembering*, which are, as we have pointed out, mental processes which are immediately experienced. In the *Three Dialogues*, however, he took up the problem and faced it squarely, although he did not realize the consequences of the conclusion to which he came. He attacks the suggestion that we must distinguish between sensation, as an act of the mind perceiving, and the object perceived. Now, this is precisely the contrast which immediate, or presentational, realists like Russell and Alexander have in mind and by means of which Russell seeks to show that Berkeley was the victim of a confusion. But Berkeley denies that the mind is active in perception. I recommend to the English realists a study of this part of the *Dialogues* (pp. 40-4, Open Court edition). Berkeley cherishes the necessity of a substance; and since ideas cannot exist in an unperceiving substance, he decides that they must exist in a perceiving substance which is, however, essentially passive in perception. What is necessary to reach Hume's position is to deny the need for a substance at all. Thus Berkeley's "ideas" are Hume's "impressions" and Russell's "sense-data." Hence the problem comes to be: Who is more nearly right, Hume or Russell?

The problem raised by the criticism of the scholastic element in Berkeley is of fundamental importance for theory of knowledge. We shall take G. E. Moore as the typical advocate of the position that there is an element called consciousness in perception distinct from that which is perceived. We shall endeavor to see what he means and whether what he means is true. As a result, certain conclusions should stand out clearly to guide us in our interpretations of basic distinctions in the field of the individual's experience.

Mr. Moore passes from perception to sensation. What, he asks, is a sensation? The sensation of blue differs from the sensation of green; yet they are both alike in being sensations. They must, therefore, have a common element. This common element Mr. Moore calls consciousness. In every sensation there are, accordingly, two distinct terms: (1) consciousness in respect of which all sensations are alike; and (2) something else, in respect of which one sensation differs from another. "The true analysis of a sensation or idea is as follows. The element which is common to them all, and which I have called 'consciousness' really *is* consciousness. A sensation is, in reality, a case of knowing or 'being aware of' or 'experiencing' something . . . To have in your mind knowledge of blue is not to have in your mind a 'thing' or 'image' of which blue is the content." ("The Refutation of Idealism," *Mind*, Vol. XXVIII, p. 433.)

Let us first see what Mr. Moore deduces from this distinction before we attack it. He maintains that idealists have held that the object of consciousness in a sensation is merely a content of the sensation. "It is held that in each case we can distinguish two elements and two only: (1) the fact that there is a feeling or experience; and (2) *what* is felt or experienced; the sensation or idea, it is said, forms a whole, in which we must distinguish two 'inseparable aspects,' 'content' and 'existence.'" With Mr. Moore's extremely able criticism of this conception I am in full agreement. The logical conclusion of the position is that the "sensation of blue" differs from a blue bead or a blue beard as the latter two differ from each other; the former contains consciousness rather than glass or hair. (*Ibid.*, p. 448.) Having reduced the content, or quality, view to absurdity, he returns to his own analysis that consciousness really is consciousness and a sensation a case of knowing something. Thus the sensation of blue includes blue, awareness, and a unique relation of this element to blue.

Before we consider the assumptions made by Mr. Moore, it may be well to call attention to the answer which Berkeley gives to the assertion that idealism holds that blue is a quality of consciousness. To the fifth objection, that if extension and figure exist only in the mind, it follows that the mind is

extended and figured, he replied that these "qualities are in the mind only as they are perceived by it, that is, not by way of mode or attribute, but only by way of *idea*." As I understand this answer, it admits that sensations are objects of the mind. But sensations do not, for Berkeley, contain any inner duplicity; they are not analyzable into consciousness and its object. The object is the sensation. This at least is the position which he takes in the *Three Dialogues*. Blue and green are sensations because they have a certain status as objects of the mind, not because, as Mr. Moore asserts, they have a common element.

But Mr. Moore would reply that Berkeley wishes to make sensations objects of the mind without admitting the awareness of which they are objects.¹ We have already pointed out the difficulty which confronts the analyst who wishes to give a cross-section of what is actually experienced in perception according to Berkeley (*cf.* Chap. IV). He asserts that the mind is passive and not active in perception. Thus there is too much talk of substance or mind and too little of what is meant by perceiving. But if we eliminate soul-substance, as Hume does, we are left with sensations as impressions or mental existences which exist although they are not objects. The mind, according to Hume, consists of these and their reproductions. While we have criticised Hume's denial of the unity of the field of experience, it is quite possible that he is right in the position that impressions and ideas are independent of any special act of perceiving, although not of attention. This is, in fact, but the logical consequence of his amendment of Berkeley.

It is necessary to study perception instead of sensing, for the reasons given above. We saw that the subject-self is given with the percept, which is ordinarily regarded as a thing. Whatever activities occur qualify the subject-self and are readily interpreted as mental acts, since they harmonize with other meanings. Chief among these is, perhaps, the contrast between the thing as given and as merely conceived. Because we can think of the thing when it is not actually present, we are able to distinguish the givenness as

¹ Moore's "A Refutation of Idealism" seems to boil down to this point of difference.

a sort of additional fact. It is this additional fact which, when taken in connection with the growing feeling that the mind must perform an act of apprehension, gives much of the meaning of awareness. (Cf. Strong, "Has Mr. Moore Refuted Idealism?" *Mind*, Vol. XXX, p. 181.) The result is that a growing dualism within the field of the individual's experience between the person experiencing and the things experienced is interpreted. What I wish to emphasize is that this development is the inevitable outcome of the meanings characteristic of Natural Realism.

We may say, then, that there is a dualistic structure of experience in perception but that both sides are mental. The dualism is a developed one within the unity of the field. The nature and extent of this unity was sufficiently discussed in the preceding chapter, but certain points should be touched on in this connection.

Before impressions are clearly present to the subject-self, as they are in perception, they must go through a process of interpretation. Past experience is brought to bear upon the present claimant and it is clothed with definite meaning. Psychologists frequently speak of this process as the ascription of meaning to the stimulus and explain it in terms of association. Perception involves the complication of the sensational nucleus with knowledge-about. Every percept, or thing-experience, is a product in which centrally-aroused factors are as important as the sensational core. We stressed these activities as characteristic of the temporal dimension of the field. Only after this has been accomplished does the percept stand out clearly to the percipient. For this reason interpretation of the stimulus and *entrance into consciousness* are considered simultaneous. It is evident that entrance into consciousness involves distinct presence along with the subject-self in the field. This is what Reid had in mind when he condemned Hume's position. The first stage is not simple apprehension of sensations, but "apprehension accompanied with belief and judgment." (Cf. Chap. III.) Entrance into consciousness ordinarily implies the level of Natural Realism.

It is a mistake, however, to think of the subject-self as performing an act of apprehension of a peculiar kind at the

time of the entrance of a stimulus into consciousness. Apperception involves processes, but these are not centred in the subject-self as Kant supposed. Judgment, assimilation, ascription of meaning, and interpretation are temporal processes which require the capacities of the individual mind and are so treated by psychology; but the capacities of the mind should not be identified with the subject-self of the coexistential dimension to which the product appears, for this is itself a product.

We may say, then, that perceiving stands for two things which are quite different: (1) processes in the mind of a synthetic character; and (2) a supposed act of apprehension to explain the bridging of a chasm between the inner and the outer sphere of the field of experience as these are understood at the level of Natural Realism. As I see the situation, the epistemologist who supports immediate realism stresses the second meaning and accepts a peculiar mental act of apprehension. I have tried to point out why I believe he is mistaken.

But Mr. Moore seems to have in mind not so much blue as a quality of a thing as blue as a sensation. Certainly, his terminology is ambiguous at the present day when it is the psychologist who uses the term "sensation." The psychologist is "conscious of" the sensation of blue. The sensation of blue is thus an object for him. It is an object in that realm which he calls the stream of consciousness. Why, then, does he give it this cumbersome name which suggests to the unwary that it is a double phenomenon? The reason is that for common sense the physical world is primary and has become the reductive and base of reference for the inner world. When we remember that the physical world of which we are *aware* is looked upon as common, while the psychical world is considered private, we can understand why language has emphasized the subordination of sensations to qualities of things. Reference to the inner world is secured indirectly by means of the supposedly common world of things. The idea of "quality of" dominates the use of blue as an adjective. We tell what sensation we have by indicating the quality; but if we said "a blue sensation," this would

suggest that the sensation is a thing of which blue is a quality. Mr. Moore saw this, but misread it. The distinction between sensation of blue and blue as a quality of a thing is inseparable from the contrasted outlooks represented by the two things.¹

A sensation of blue is, then, a mental element of which we can be conscious in introspection. We may think about it in various ways. As an object of our thought, it is independent of these thoughts about it much as a toothache is independent of our thoughts concerning it. But this relative exteriority of things to which we take the cognitive attitude to the various ideas we may entertain regarding them is a standard characteristic of reflection. Unless there were this stability on the part of elements of the field, reflection would be impossible; the least thought would blur things.

The conclusion at which we have arrived is that mental elements are experiences so far as they are present in the unity of the field with the subject-self. It is in this sense that they enter consciousness. They are not, however, apprehended in any unique way by the subject-self. What makes it seem so to us until we take second thought is the dominance of the self in introspective reflection and the part played by it in the control of voluntary attention. Hence it is best to relinquish the phrase which Berkeley made famous; it has become meaningless with the denial of the construction which it was used to interpret. For the same reason, it is useless to attempt to modify the phrase into *percipere* or *sentire*. Mental elements have their own nature and are present with the subject-self in an intimate unity, but they are no more dependent on the subject-self than the subject-self is dependent on them. This is evidently Hume's position, modified by a keener sense of the unity of the field. This field, which is so complex for the normal man while he is awake, may at other times drop to a simplicity which is hardly realizable. In sleep, and when one is just recovering from an anaesthetic, it may consist of mental elements in a field which has no definite structure. At these low levels the

¹ We must remember that psychology is a special science and accepts in many ways that outlook of common sense which we have called Natural Realism. This fact tinges its terminology.

sense of self often disappears and we say that we lose consciousness. It does not follow, however, that there are no mental elements present in the organism. If we may believe the results of abnormal psychology, quite the contrary is the case. There is unconscious consciousness, or, to put it in a less paradoxical form, there are mental elements which are not present to a subject-self. Thus when I am told that I cannot have a feeling unless I am conscious of it, the question arises whether the two "I's" are the same. The subject-self which we immediately experience is merged by common sense with the body as the individual; presence to it seems, therefore, to be essential to relation to the individual. The more dominant the self becomes, the more does this appear to reflection to be necessary. This higher unity in which reference to the self qualifies all experiences is only a development within the field. There is no good reason to hold that all mental elements connected with the organism must be in the field. In truth, recent investigation tends to show that this is not the case and that the field in which the self dominates is empirical and that its basis can be disrupted by dissociation.

Let us now glance at the supposed cognitive relation which connects the mental with the non-mental. We saw how important this was considered by Russell and by Moore. This relation between mind and something other than mind is held to constitute the mind's power of knowing things. If our analysis be true, this element of relation is simply a metamorphosis of the togetherness which we found to characterize the field of the individual's experience from the beginning. "All knowing," writes Mr. Alexander, "is a togetherness of the mind and the object." The significance of this statement can be better gauged when we remember that the objects which are actually present in the field of the individual's experience are constructs which depend on the past experience of the individual. Is it not evident that we have in immediate realism the abiding influence of Natural Realism? (If I remember rightly, Mr. Alexander started out with the ideal of the description of experience.)

But the contrast between the mind and what is not the mind does exist as a distinction of which we are aware and

which we do not seem to be able to avoid. The inner sphere constantly grows more definite and complex and, like the subject-self and the mental processes which form its vivid nucleus, links itself to the body. In this way it secures a justified contrast with the outer sphere, which consists of things obviously independent of the body. This inner sphere thus qualified is thought of as the mind of the individual. This is the logic of the development of the stream of consciousness attached to the body and yet somehow cognizant of the body and other non-mental things. Common sense does not go so far as psychology, but stops with a mind, connected with a body, which knows non-mental things. This is where Mr. Alexander seeks to take it up. We may say, then, that the contrast between mind and the non-mental is not primitive and intuitive, as the immediate realists hold, but develops within experience. What mind really is, is a problem which psychology and logic are just beginning to solve. We have advanced far enough to recognize that it extends farther than either common sense or immediate realism supposes. The distinction is, however, an important one for epistemology; we shall use it as the basis for a mediate realism.

But is there any mark by means of which the mental can infallibly be known? Moore and Russell believe that we can become aware of consciousness or the mental and know that it is different from the non-mental. Thus these writers entertain no doubt as to the distinguishing features of the mental as such. We, on the contrary, have been led to hold that the ordinary contrast between the mental and the non-mental is one within the mental as a whole. These are species of the mental, as it were, whose difference of assignment is due to a difference of rôle played in the economy of the field of experience. Every element in the field is mental, although the individual does not experience them as mental in the contrast sense. Those which belong to the sphere of objects qualified as known or perceived are, instead, experienced as physical or non-physical, but not as mental. Only in introspection do we have all the objects which are experienced qualified as mental. This is one of the reasons why idealism seems foolishness to the beginner. Mental is a

contrast-meaning, and it appears that idealism wishes to make it absolute. It is a mistake to suppose that the field of experience appears to the individual as a unity; that aspect is in the background. Moreover, consciousness is not a birthmark which can be found in the elements. The intimate unity and personal character of the field as a whole is a discovery made by reflection in the face of such meanings as "commonness," "permanence," and "independence," which surround these elements like an atmosphere. Mental, in the inclusive sense, is a new meaning which has to gain mastery through a reflective struggle.

There is, however, a characteristic of the field which supports the new meaning after it has once been achieved. This is the variability of the clearness of objects due to attention. We have no reason to believe that objects vary in this manner in their own right. Variation in clearness is not the same as a variation in intensity. Clearness does not appear to be a quality of objects, yet it is very intimate. Those who have followed the argument thus far will, I am sure, agree with me that variation in clearness is the sign and seal of the mental character of all experiences. It is the expression in the co-existential dimension of that vital unity which psychology has brought to light.

Thus far we have treated the more general distinctions of the field of experience. With a knowledge of these as a basis, it is possible to avoid the grosser errors to which theory of knowledge is prone. There still remain certain more reflective distinctions which require careful interpretation. The three which are important for epistemology are as follows: (1) the distinction between an immediate experience and the thought of it; (2) the contrast between an object as an existence and the concept of it or knowledge about it; (3) the difference between the use of the word "idea" in contemporary logic and its traditional use in epistemology. We shall take these up in their present order.

The best way of approach to the implications of the contrast between *an immediate experience and the thought of it* is through Hume. For Hume, an immediate experience is an impression; an impression is vivid and lively and, in

general, easily distinguishable from thoughts or ideas which are less lively. Moreover, these thoughts are copies of preceding impressions. By the term "copy" Hume has in mind two things: (1) the resemblance between the thought and the impression; (2) the fact that one is supposed to precede the other and make it possible. In these three assumed facts of decreased vividness, resemblance, and temporal posteriority on the part of thoughts in relation to impressions, we have the ground of the distinction between them. So long as we identify thoughts with images, psychology accepts this analysis. It has, however, added a physiological basis to the contrast. Images are centrally aroused, while impressions are peripherally aroused. But psychology has also asked why we are able to distinguish between impressions, or percepts, and ideas. Hume took too much for granted at this point. In the first place, there is not between an idea and the original percept as regards vividness the degree of difference that he assumes. Besides, even were there the marked difference between them which he supposed, we have no right to assume that the individual possesses an intuition of the meaning of this difference. He must learn by bitter experience. We need not enter very fully into the psychology of the knowledge of this contrast between ideas and percepts. Common sense is aware of the difference between things and the thoughts of things.

So long as the reproduction of ideas is subordinate to anticipations leagued with action, memory in the strict sense cannot develop. Memory is a recognition of an idea-object and, along with this, the realization that the real or perceptual-object is absent. Such recognition of the idea-object is due to associations and is not essentially different from the recognition of perceptual objects. The idea-object tends to be taken for the perceptual-object, yet, because it belongs to the class of ideas, cannot be so taken. *It is this tension between two ways of taking the recognized idea-object which gives the meaning of representation.* The present context, which is different from the old, especially on the side of purpose, and the fact that it is an idea-object, make it a memory; the ideational similarities together with the recognitive associations

make it a memory of a definite thing. It must be remembered that memories of things are constantly being tested by appeal to a new immediate experience of the thing remembered. The idea-object as remembered can in this way be compared with the perceptual-object. The selection of the perceptual-object with which it is to be compared is thus made by the idea. All this is required before it is possible to have the facts of decreased vividness, resemblance,¹ and temporal posteriority brought out by reflection.

Let us glance at the nature of representation, or reference, as it is indicated by this analysis. It seems to be entirely empirical and to be a function of the meanings which surround the idea-object as a result of experience. The idea-object is first self-sufficient and non-referring. It is recognized and tends to be taken as a thing; but it is qualified by experience as only an idea. In consequence, it is experienced as an *idea of the thing* which it tends to be taken for. This seems to me to be the logic of the development of reference; but of course this way of taking an idea-object is so familiar to us that it is almost immediate.

Now in memory, as in ideational experience in general, the particular image which stands out for introspection is not as fundamental as it is often taken to be. Memory is a case of knowledge, and in knowledge the system, or experienced organization of associations, is the fundamental fact. This conceptual object is not, as in fancy, felt to be under the free control of the self. That which we remember is held to be as objective as that which we perceive. Our attitude is that of belief. A memory would seem, then, to be a complex immediate experience qualified by certain meanings which introduce a contrast with past experience into its heart. Another point: the component parts of a memory-system may conflict, and this fact reveals the looseness of a memory in contrast with the stability of a percept. I may know that a building is of a certain color,—I think in words, and for me this knowledge is connected with a word, “red” for instance,—yet the visual image may persist in being grayish. Thus the inadequacies,

¹ Of course, the amount of resemblance depends upon the purpose. We may think about a clock and have not much more than a word in mind.

and even errors of images, may be realized without resort to a new immediate experience.

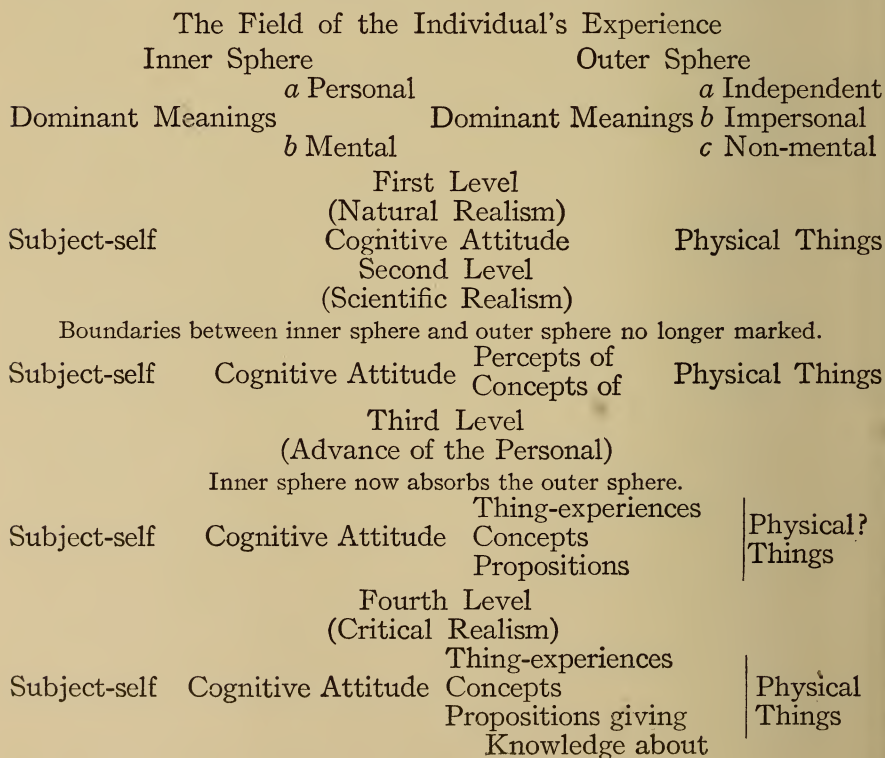
At this place it may be well to criticise the position often taken by psychologists toward these problems. Since we are now aware that even physical things, as experienced, are thing-experiences and are mental even though they are considered by the individual to be non-mental and independent, we are not so apt to feel the pressure to get outside the mind in thinking that the psychologist feels with his tendency to a juxtaposition of consciousness as a stream and that which it knows. A criticism of the outlook of Stout will make my meaning clearer. "Thus sense impressions and images are means by which we perceive or imagine material things and their qualities, states, and processes. We cannot imagine a horse without having an image of it; but the image in our heads is evidently not what we intend to refer to. It cannot be simply identified with the object of the mental act which we call thinking of a horse." (Stout, *Some Fundamental Points in the Theory of Knowledge*, p. 3.) I fear that the influence of Bradley's reaction against the psychology of Mill is evident in this statement. We do not experience images primarily as in our heads; that view is the result of the reflective assignment of the image to the stream of consciousness as opposed to the world of things. When we think of a horse, the image is a part of the object; or, to put it more accurately, what is afterwards called the image is a part of the object which we think. This object is classified by the psychologist as a concept, and the image is an analyzable part of the concept; but the whole concept is just as much in the head of the individual as is the image. Neither are, however, experienced as in the head. Professor Alexander has realized this fact, but, unfortunately, has taken a description of the immediate experience for an epistemological finality, whereas it is only the foundation for epistemology as against the special viewpoint of psychology. When the psychologist analyzes the experience of thinking of an object, he is forced to recognize two elements within the stream of consciousness: (1) "A thought-reference to something which, as the thinker means

or intends it, is not a present modification of his individual experience"; (2) "A more or less specific modification of his individual experience, which determines the direction of thought to this or that special object." This last is called the content. Strictly speaking, however, we are not aware of the content, but of the object which is present to the subject-self. This mysterious thought-reference is introduced to counteract the evident flatness of mere content.

We pass next to the distinction between *an existence and the concept of it, or knowledge about it*. This structure is fundamental for the capacity to think a critical realism. Immediate realism makes the mistake of building on a contrast not adapted to reflective knowledge. The contrast between the mind and its ideas, and existences independent of these but known by them, is really a reflective one which critical experience only strengthens. We shall try to show that knowledge is not a matter of direct apprehension by the mind of what is non-mental. That is too simple a theory to cover the facts, and even common sense is not entirely sympathetic with it. I am unable to understand how a thinker trained in psychology can for a moment entertain it. But in the present chapter we are concerned with empirical analyses of distinctions which the mind has built up and uses, and not with their epistemological implications.

In the first chapter we saw why the distinction between a percept, or thing-experience, and the physical thing arose; the percept is qualified as personal and causally connected with the physical thing, while the thing retains the meanings of independence and perdurableness. We think the thing and perceive the percept. Soon, however, a like fission threatens the thing which is contrasted with the percept. We think or know or conceive the physical thing. But we can make mistakes in regard to it and are convinced that we do so. For these reasons, and others which will come out later, man has been forced to go further and to distinguish objects of his thoughts from objects as existing. And the more he studies the objects of his thinking, the more he is aware of their history and the more convinced is he that they are constructions made upon the basis of his experiences. Our realistic attitude toward the world, nevertheless, continues unshaken.

The consequence is an increased emphasis on the distinction between objects existing outside the mind and the objects of our thinking. Thus a further fission of the independent thing arises. It breaks up now into the object of our thinking, or our concept, and the object-as-existing. The stages in development from the level of Natural Realism correspond to this retrogression of the independent, or non-mental, thing. At first the object-as-existing is identified with the thing-experience which contains perceptual and conceptual elements; then comes the contrast between the percept in the mind of the individual and the thing which is the object of thinking; and, finally, there arises the contrast between the object of thinking and the thing-as-existing. In all these stages the realistic outlook with its meanings remains, and I can see in the movement no hope for the idealist unless the defeat of the immediate realist along with himself gives him sufficient comfort. I give a diagram to make this movement clearer:



Now the objects of thought are usually termed ideas or concepts and are set in opposition to the existences of which they are said to be ideas. Thus we contrast the sun as an existence with the idea of it formed by astronomers. This idea consists of a series of propositions about the sun. We know that the sun is nearly ninety-two million nine hundred thousand miles distant from the earth, that it possesses a corona, that its density is little more than a quarter of the earth's density, and so forth. Our ideas are supposed to contain knowledge which is referred to the existent thing. It is this reference which is symbolized by the preposition "of." When we appreciate the high level of reflection at which this contrast between idea and existence can be used, we realize that we possess in it the means to harmonize the Advance of the Personal with its enlarged view of mind and the meanings of Natural Realism. The concept, idea, or object of thought is personal, while the object-as-existing is independent.

It must not be forgotten that the antithesis between the object of thought, or the idea, and the object-as-existing is one within the field of the individual's experience. We have tried to explain its origin and apparent significance. The further task of describing the mechanism of the distinction remains. The point which I wish to emphasize is that the contrast between the mind and that which is independent of it arises within the mind and that *knowledge is a meaning of like empirical character.*

The first level of the distinction between a thing and the individual's idea of it is to be found at the stage of Natural Realism. For common sense there are two ways of knowing things, knowing them immediately or intuitively and knowing them conceptually or representatively. (Cf. William James, *The Meaning of Truth*, p. 43.) Let us take the example chosen by James. What do we mean by saying that we here know the tigers in India? The tigers are qualified as absent, yet they are present to our thought. James is rightly averse to making a mystery of this peculiar presence-in-absence. To speak of the intentional inexistence of the tigers in our thought does not seem to him to solve the problem. Certainly representative knowledge must not be

made into a mystery; but this desire to escape mystery does not justify the adoption of that metaphor of pointing which has been characteristic of pragmatism. But if conceptual knowledge is a case of pointing, what is the pointing known as? James's answer to this question is as follows: "The pointing of our thought to the tigers is known simply and solely as a procession of mental associates and motor consequences that follow on the thought, and that would lead harmoniously, if followed out, into some ideal or real context, or even into the immediate presence of the tigers." (Cf. note on pp. 44-45.) When we examine this discussion closely, we find that he is combating the view that images taken by themselves are self-transcendent. This is the mystery to which he is opposed. Only one other possibility seems open to him, *viz.*, that "To know an object is here to lead to it through a context which the world supplies." To know is "only an anticipatory name for a further associative and terminative process that *may* occur."¹ (P. 46, and note.)

This analysis of knowing is a beautiful example of the fact that the psychologist is most at home in the temporal dimension of consciousness. It is the ambulatory relation between image and renewed percept which he has in mind. And, assuredly, an image, as the psychologist understands that term, cannot transcend itself. An image is an object of thought and not a thought-of. Let us recall our examination of memory. We saw that the image is only a part of the object of memory. The object involves a system qualified by meanings. When we desire we can make the system explicit in a series of propositions of which the object known or remembered is the subject. This expansion is felt to be a development of the object known. The attitude taken by the individual all through is that of cognition or acceptance. Now, in contrast to memory, when one thinks of an object one does not have in mind the fact that the object has been experienced before. We conceive or think objects and remember our experiences of them. ("For when memory actually takes place, one

¹ This is the so-called instrumentalist view of knowledge, which is really an expression of idealism.

must say that the process in the soul is such that one formerly heard, perceived, or thought the thing." Aristotle *On Memory and Recollection*.) When I think an object, there is for the time being no dual rôle played by the object; the object seems to be present to my contemplation. But common sense introduces a new motive, since it regards perception as the basic form of knowledge because the independent thing is supposed to be present to the observer in perception. We see here the influence of Natural Realism. Hence, an object which is thought of is contrasted with the same object as it is perceived. We are, accordingly, said to have an *idea* of the object. This interpretation is the more natural, inasmuch as we make mistakes in our thinking of objects that we do not make in perceiving. The result is, we have the object present to our minds so that it is recognized; but it is qualified as an idea by means of the motives referred to above. This is the genetic logic of intentional inexistence, or presence in absence. So engrained is the conviction that only in perception are physical things actually present to the mind, that the object of thought, although it evidently presents itself as present in another way, is called an idea or concept or thought of the thing. Thus we speak of thinking of a thing or conceiving a thing as practically synonymous with having a *thought* of a thing or a *concept* of a thing.

Those immediate realists who are opposed to Pragmatism tend to stress the fact that thinking is a type of cognition. So far as this brings out the fact that the individual's attitude in thinking of an object is as cognitive as it is in perceiving, they are correct. "The ambulation from idea to percept," writes Mr. Alexander, "is not cognition in general, but the special case of passing from an imperfect cognition of the object to a completer one." As a matter of fact, interests other than knowing make us desire perception. Conception is not a less perfect cognition than perception; it is, instead, a more adequate mode where the purpose is not merely to secure an idea of the sensible appearance of the thing. When this more penetrative character of conception is realized, the way is prepared for a new view of knowledge. The individual is not satisfied with perception, but considers it a means to

knowledge. Indeed, he begins to ask himself whether there are really two kinds of knowledge about the physical world, one in which the object is present in his field of experience and one in which it is present representatively.

So far as common sense is reflective, the thing perceived is the existence, and the object of thought is the concept of it. Now, when Natural Realism breaks down and the thinker comes to the conclusion that the percept, or thing-experience, is not the physical thing, he carries the same manner of speaking over to the realm of what was supposed to be intuitive knowledge. He speaks of a percept of the thing just as, before, he spoke of an *idea* of the thing. Thus the contrast continues after its first historical basis has been removed. The preposition "of" symbolizes the reference or pointing which is just as necessary in one case as in the other. The contrast in mind in both instances is that between what is mental and what is independent of mind. But what are ideas *ideas* of now? Not of percepts, for it is recognized that concepts involve knowledge gained from many percepts by means of those mental processes which we call thought. We continue to mean by them concepts of existences which are independent of the mind. They leap to the front in science as the more adequate mode of knowledge. Once pass beyond the level of Natural Realism, and it is more than doubtful whether the old contrast between immediate knowledge of the physical world and representative knowledge has not lapsed. All it now seems to stand for is the fact that concepts are based on a more primary experience.

So long as we remain at the level of Natural Realism, the nature of reference is clear. The world appears open to observation; things are where they are seen and are seen where they are. Thinking involves a dimmer presence of this world; at least, concepts which we know are of the things we have seen or of things like them. But when Natural Realism breaks down, how shall we word this contrast? If the existence to which the object of thought referred, turns out to be a thing experience, what shall we do? What we must do is to throw away the view that knowledge is ever the immediate presence of the physical thing in the field of experience. We at last

distinguish between presence to the psycho-physical individual and presence in experience. For Natural Realism these are identical. Reflection, however, brings out the fact that the presence of the physical thing to the individual is the condition for the presence of the thing-experience in the field of the individual's experience. In this way, the Advance of the Personal and the causal theory of perception which is worked out in detail by science and admitted by common sense are harmonized with the realistic meanings which will not down. Thus physical things are causally connected with percepts and help to control their development, but are not perceived. What is perceived does not cause its own perception. But we are able to conceive this *absence-in-presence* of the physical thing by means of the distinction between the thing and the thought of it which we already possess. The presence-in-absence of thought makes thinkable the absence-in-presence of perception. We realize at last that knowledge cannot be the presence of the object known in the field of experience. The logical consequence is that perception loses its primacy as a mode of knowledge and becomes, in the main, a means to knowledge. When it is once realized that all knowledge of the external world is mediate, the question shifts to the problem of the adequacy of knowledge. Need we emphasize the fact that, at this level, conception gains the day? All scientific knowledge is of this sort. But it is false to make the contrast too harsh. Both psychology and logic are informing us that conceptual material is absorbed by perception and that the two are more continuous than we had supposed. The main difference lies in the fact that a perspective is indissolubly linked with perception which reflection can remove from conception (*cf.* Chap. II).¹

That we do and can think a realism in which we distinguish between the objects present in thought and the objects as existing which are no longer identified with our thing-experiences seems to me indubitable. It is obvious that we do this by means of the development of a distinction characteristic of Natural Realism. The higher levels build, as

¹ It is evident that I differ from M. Bergson both in regard to the nature of perception and the adequacy of conception as a mode of knowledge of nature.

we should expect, on the lower level, and the idealistic motives incite to this growth from immediate to mediate realism. That, as we shall try to show later, is their function; and it is unfortunate that they have not been seen in this light. Only after we have met idealism fairly, shall we be able to state what a critical realism must mean by "knowledge." It is evident even now that pointing, or reference, is within experience.

Now the objects of thought in contrast to objects as existing, or existences, are usually spoken of as *ideas* in the traditional epistemology. These ideas are supposed to mediate knowledge of an independent world. It is evident that we agree with this outlook, although our view of knowledge is not the traditional one.

We come now to the final distinction of the three to which we called attention, *the difference between the use of the word "idea" in contemporary logic and its traditional use in epistemology*. The point is important, because were the reader to confuse these two uses he would be bewildered by recent controversial writings in which one school, intoxicated by its supposed discovery of the logic implicit in scientific method, proclaims in season and out that "ideas" are but suggestions, hypotheses, theories, or conjectures entertained during reflection in response to a specific problem which arises within experience.

In spite of the strictures I have felt compelled to pass, I have a deal of sympathy with the logical analysis of reflective thought made by these thinkers. (See especially the first five chapters of Dewey's *Studies in Logical Theory*. The quotations will be made from these.) Let us glance at this analysis in order to gain a clear notion of what is meant by an "idea"; we shall then be able to determine whether the presence of these ideas and their function conflict with ideas in the epistemological sense of the term.

It is the situation as a whole which calls forth and directs thinking. "Positively, it is the whole dynamic experience with its qualitative and pervasive identity of value, and its inner distraction, its elements at odds with each other, in tension against each other, contending each for its proper placing and relationship, that generates the thought-situation"

(p. 38). This whole situation is objective. To use our terminology, it is "the field of the individual's experience." Naturally enough, however, it is not reflectively qualified as mental. The outlook of the individual who reflects on specific problems is more apt to be that of the context within which he is working. If he is a plain man, his world will have the structure and characteristic meanings of Natural Realism. If he is a scientist, the point of view will be that of scientific realism. The total situation within which reflection works simply *is*, much in the same way that the environment is to an organism. The total situation is, as it were, the universe for the specific problem which breaks out within it. It is in this sense that it is objective. Now the conflicting situation inevitably polarizes itself. There is something which remains secure, unquestioned, and there are elements which are rendered doubtful and precarious. The field is thus distributed between "facts—"the given, the presented, the Datum—and "ideas," the ideal, the conceived, the Thought. The Datum is, so far as it is uninterpreted, crude, raw, unorganized, brute; the Ideatum is only a suggestion. Thus datum and ideatum are coöperative instrumentalities for economical dealing with the maintenance of the integrity of experience. Such a specific process leads to the rejection of certain *ideata* as fancies, misconceptions, errors. They are then adjudged subjective and given merely a psychical existence. We must remember, however, that the term, psychical, is larger than the subjective in this sense. When, after due reflection, an idea is accepted as solving the problem in hand and restoring unity to experience, it merges with the datum to become an objective, cosmic fact. This is, in brief, the character of reflective thought and the function of "ideas" therein.

With all this, if it be considered an analysis of concrete thinking, I would agree. It is only when epistemological significance is read into it that I would call a halt. Reflective thinking does arise under the spur of doubt and does seek to restore unity to experience. There are no absolute facts or data which are independent of this active process of reorganization. "The datum is given *in* the thought-situation, and *to* further qualification of ideas and meanings." As against

Lotze, Professor Dewey certainly makes his point—as is practically admitted, for instance, by Bosanquet. Lotze is involved in a tangle of contradictions. Given a thought-in-itself which acts externally on material, and the following dilemma results: “either thought is separate from the matter of experience, and then its validity is wholly its own private business; or else the objective results of thought are already in the antecedent material, and then thought is either unnecessary, or else has no way of checking its own performances” (p. 72). We shall see that Kant’s system is open to similar objections. Certainly we cannot test scientific systems by the fragmentary observations whose very inadequacy spurred us on to the discovery of explanations. If they remain as facts, they are facts which have been interpreted. Of course, if new observations make this interpretation questionable, they can drop back to their former status as within a tensional situation. Thinking is, therefore, an activity through which experience goes in its attempt to secure coherence. “The outcome of thought is the thinking activity carried on to its own completion; the activity, on the other hand, *is* the outcome taken anywhere short of its own realization, and thereby still going on” (p. 79). The worth of the thinking is to be found in the result or conclusion; but this can be tested and understood only in the light of its achievement.

It is interesting that the older English logicians, so far as they understand Professor Dewey’s argument, agree with it. For them, also, coherence, the overcoming of conflicts, is the goal of thought; in a similar way, they repudiate absolute facts or data. “In logic as I understand it,” writes Bosanquet (*Truth and Coherence*, p. 10), “attempting to follow out at a long interval the practice of the masters, there is no epistemology in the sense supposed [by Dewey], no treatment of thought in itself as opposed to reality in general . . .” Evidently, these thinkers agree that knowledge cannot be directly tested by a reality taken as an external standard. The difference which enters into their logic is due to a difference in metaphysical outlook. Of the two, Dewey is the more empirical, keeps closer to the standpoint of common sense

and science; but he is inclined to mistake an empirical description of experience for an explanation. In other words, he is too prone to affirm, as does Avenarius, that epistemological problems are unreal.

We shall now consider certain problems the discussion of which has been made possible by the exposition above. "Ideas," as defined by Dewey, are not objects of thought in contrast to objects as existing. Objects of thought in this contrast sense are the products of reflective thought as it performs its function of solving problems of a scientific character. Thus they are made possible by "ideas" in the logical sense in which they are antithetic to data. Objects of thought are tested and accepted meanings, systems of facts and theories, or propositions which reflective analysis and synthesis have achieved. They represent solutions. Once get clearly in mind the difference in temporal and logical status between "ideas" and objects of thought in the epistemological sense, and the conflict vanishes. It is unfortunate that the English language is so poor in technical philosophical distinctions. The word "idea" has been used for almost everything under the sun by English and American thinkers. Objects of thought are objects of thinking as a cognitive attitude succeeding thought as a reflective activity. We call them objects of thought because we have "perception" in mind as a contrast term. It is only after specific problems have been solved and conclusions have been achieved that we pass on to this further distinction. Of this distinction which arises in the field of experience and which specific reflection plays into, we have surely said enough in the preceding pages. In the third chapter, I tried to point out that the pragmatists of the so-called "Chicago school" use the term "experience" in a socially objective sense. It is because of this naïve objectivity that they manage to escape the urgency of epistemology. They escape it much as the ordinary scientist does.

A purely external reality cannot furnish a single criterion of truth. Tests of truth must be immanent. But to argue from this fact to the conclusion that we have no right to consider tested results as giving us knowledge of existences which cannot enter the field of experience is unjustified. We

do have such an outlook, and there is nothing self-contradictory about it. If thinkers would only be more empirical and more patient, they would escape many enforced self-deceptions. In the later chapters we shall see that the conception of *control*, by existences outside the field of experience, of the constructs within the field of experience in accordance with the laws of the psycho-physical organism—as seen in physiology, psychology, and logic—is not only thinkable but unescapable. Therefore, knowledge secures an objective basis in reality as a whole, just as it has an objective position in experience.

All the distinctions with which we have dealt in the last two chapters are to be found in the field of the individual's experience. We have felt that an appreciation of this field in its very real complexity is the precondition of any adequate epistemology. While we have at various times made suggestions as to what epistemological conclusions the description of the field would warrant, we have endeavored to hold these suggestions separate from the empirical description. In the same way, we have shown ourselves favorable to a logic which is not avowedly epistemological. The relation between fact and theory in experience and the nature of judgment are empirical problems, and logic is only another science. The fault with Lotze's logic, which leads it into the dilemma that Professor Dewey has so well criticised, is that its standpoint is not homogeneous. Mix logic and epistemology together before you have an adequate epistemology or a satisfactory logic, and the inevitable product is poor logic and a bastard epistemology. But the holding up of such a product to ridicule is not a proof that epistemology is a pseudo-discipline.

The empirical foundation which we have desired is now practically complete. We shall pass to a criticism of the dominant epistemological theories, using this criticism as a means to develop the position which we ourselves hold.

CHAPTER VI

AN EXAMINATION OF IDEALISM

THE mental pluralism at which we have arrived is in unstable equilibrium. It is not an epistemology nor, *a fortiori*, a metaphysics; but it is, if our analyses have been valid, the indispensable basis of both. Instead of making haste to a system under the guidance of emotion or prejudice, we have endeavored to achieve a survey of the individual's field of experience and the distinctions characteristic of it. The Advance of the Personal has been so successful that it would be easy to forget the protest that cognition constantly made against the reduction of its objects to percepts and concepts. Were this done, it would be possible to declare the sphere of objects known to be merely constructs having no cognitive import. In like manner, it would be easy to forget the fact that the individual's thing-experiences always seem conditioned by factors of a causal nature. All this has been done again and again on less apparent evidence for idealism than has been offered in the preceding parts of our argument. But we have undertaken an analysis of experience of the broadest and least biased character. It is our duty, therefore, to discover and to marshal together the motives for realism as well as those for idealism and, when this empirical task is accomplished, to determine whether or not some outlook more comprehensive than the customary idealisms and realisms may satisfy all these empirical motives.

In order that this completer examination may be seen to be necessary, let us consider the principles upon which idealisms base themselves, for, if there be *quasi-apriori* principles at the foundation of idealism, the exhaustive study of the various motives which reveal themselves in experience would be a work of supererogation. Before we go further, it will be well to bear in mind that idealism is seldom offered in a pure form. Other tendencies are mingled with it to make it conform more to the demands of common sense and of science. And the

whole thus achieved is put under the egis of religious and ethical values. In brief, idealistic philosophies are substituted for idealism. The *quasi-apriori* principles, to which reference has been made, are treated as means to the development of a romantic or religious outlook on the world, and, unfortunately for the scientific character of these systems, the epistemological support is not always separated out and tested disinterestedly. For this reason, the criticism passed upon idealism by those who are advocates of clear-cut, logical analysis must face the danger of appearing carping and little-minded. Their arguments cannot be in the grand manner. But stricter methodological demands in every field have had to pass through the fire of adverse criticism. History, for example, has only recently become exigent and made its postulates and methods a subject for impartial investigation. With this warning given, I hope that the framework of idealism discussed below may not seem too bare and unfamiliar.

Let us examine the idealistic principles which stand in the way of a realistic view of knowledge. The first principle is of a formal character and is somewhat as follows. The terms "subject" and "object" are relative and imply each other; hence a thing cannot be an object unless there is a subject for which it is an object. Other examples of relative terms which involve each other are usually advanced to support the contention that subject and object are meaningless expressions when separated from their unity of implication. A ruler implies subjects whom he rules; a doctor, patients whom he doctors; a shepherd, sheep which he herds. But we can think of a sheep without implying that there must be a shepherd. These terms are only semi-correlatives. Let us recall the attitude taken by common sense as described in the chapter on Natural Realism. Things are supposed to exist in the physical world whether we perceive them or not. Our perception is an event or act which reveals them to us as they are, and has no influence upon them. These are thought of as semi-correlatives and not as relatives. Again, when we say that we have an idea of a person, we do not think that our idea is literally connected with the person. The phrase "of a person" tells what sort of an idea it is and is thus the result of an

analysis of the idea. The idea means to give knowledge of the person, but does not assert that, as an idea, it is existentially related to the person. In order to possess the idea, the knower must have had direct or indirect causal relation with the person known but this causal relation may have been in the distant past. Our conclusion is, that neither in the subject-object antithesis nor in the more complicated trinity of subject, idea-object, and existent do we have anything stronger than semi-correlatives.

Another point should be noted in this connection. The relatives which are usually selected as throwing light upon the relativity of subject and object involve two *things* which act upon each other or are in spatial relation. The ruler acts upon the ruled, the doctor upon the patient, the shepherd upon the sheep. We have to do with objective relations between things. But is it not begging the question to assume that in knowing we have to do with a relation between things of either a passive or an active character? Knowledge may be something unique in nature for which we can find no good analogy in the relations of objects known.

There are now two possibilities before us. Either there is no relation, be it active or passive, between subject (or knower) and object (or known), or the relation which exists must be discovered by reflection. We have no right to work by analogy in the uncritical way that is so often done.

Now, the immediate realist and the idealist both accept a cognitive relation between the knower and the object known. They differ, however, in their view of the nature of this relation. The immediate realist asserts that it is external and does not affect the object known, while the idealist claims that it is internal and inseparable from the object. Let us examine these two positions to show the *a priori* character of the controversy between them.

As the reader has no doubt already realized, the current forms of idealism are directed mainly against presentative or immediate realisms. These realisms hold that an independent object is literally present to the individual's mind in knowledge. To the idealist, this literal presence seems to involve a mystic power of transcendence, a sort of cognitive

telepathy, which is unthinkable. Unfortunately, in order to combat this error, he sees no point of attack other than a belief in a cognitive relation which binds subject and object together. The object is not independent of the subject, he replies. The relation between them is not external, as you would have us believe, but intimate and internal. Thus the controversy turns about the nature of a supposed cognitive relation.

The idealist attacks the presentative realist in the following way. The cognitive relation must to some extent modify the reality known. Hence it is impossible to know the reality as it is apart from this relation. The situation is similar to the familiar instance of the palpably absurd, the turning on of a light to see the darkness. Consequently, reality becomes a thing-in-itself which we cannot get at. Against this position the idealist holds that thought assists in the construction of reality; it does not seek a reality as something given independently of mind. That this controversy is not merely a scholastic survival appears evident from a study of recent philosophical literature. The argument of the idealist is used by a keen thinker against the American type of the "New Realism." "Stated broadly, the epistemological problem may be said to centre in the question how the same fact can be at the same time a member in the 'objective' and in the 'subjective' order; how it can be both a physical reality and an experiential fact. . . . It seems, however, that the fact which thus figures in two different orders at once is not quite the same fact in both cases. . . . Hence the question how the fact can be known as it was before the change took place." (B. H. Bode, "Consciousness and Its Object," *Journal of Philosophy, Psychology, and Scientific Methods*, Vol. IX, No. 19.)

The task which presentative realisms thus assume so lightly becomes the more insoluble the more consciousness is admitted to possess a unique centrality or unity. Now, the American type of the "New Realism" differentiates itself from the English type by its elimination of an epistemological or entitative consciousness. It looks upon consciousness as a relation into which things may enter

temporarily. Yet, as we have seen, it is unable to escape the age-old shaft of idealism. What, then, is realism to do? To maintain dogmatically that the cognitive relation does not affect the reality known is a *tour de force* even more unstable as a foundation for a system of philosophy than the idealistic principle.

Let us examine some of the motives which have led to the assumption of a cognitive relation. If we can satisfy these in another way, we may be able to rise above the interminable controversy as to whether the cognitive relation is internal or external.

If there is no relation between the knower and the known, it is asked, how is knowledge possible? It becomes inexplicable because there is nothing to compare with it. Knowledge as a function seems to bid defiance to time and space; the most distant past and the farthest reaches of the material cosmos are laid bare to its gaze. So different is it from all other acts and processes that it must be adjudged non-natural and without a basis in the immediate physiological and psychological processes which apparently underlie experience. We saw that Natural Realism is open to these charges. For it, knowledge seemed to be master of space within limits not easily discoverable. But I do not see that the addition of a cognitive relation aids matters to any extent. Yet this is what is done. The idealist bridges the apparent gulf which separates the knower from the things known by the tenuous rope of a cognitive relation. Is it strange that the presentative realist replies by adopting this unique and non-dynamic relation and making it external instead of internal? When epistemology limits itself to such formal and abstract motives, the argument can go on indefinitely. The reply to this will be that these formal arguments must be met if the problem of knowledge is to be solved. How can a mind know a thing if it has no commerce with it? The mind that knows is one entity and the object known is another entity, and knowledge surely involves a relation between them. My answer is that knowledge involves a commerce between the mind knowing and the thing known, but that this commerce precedes the event of knowing and is not identical with it. The mistake

made is to take the mind as a simple entity whose sole function is knowing. Presentative realisms have been especially prone to look at the mind in this way.

But the cognitive relation, if it exists, should be empirically discoverable. Let us see whether a relation between the knower and the object known is a matter of immediate experience given as directly as the object itself. So far as I can make out, cognition is an event characterized by an experience called apprehension on the part of the self and an object which is apprehended. The individual takes a peculiar attitude toward the object which is present in the field of experience. But if this is an adequate description of the total experience, where is the cognitive relation which is always taken for granted? Is it introduced to obviate an epistemological action at a distance? If so, the assumption is at work that a cognitive attitude is an act like a physical act and demands something on which and through which to act. This assimilation of the mental field to the physical is unjustified unless there are strong analogies to urge it. Where, however, are the analogies? James Ward, for instance, maintains that the subject-object relation is not causal in its nature. "But one thing, I think, we must not do: we must not attempt to bring this relation of subject and object under the category of cause and effect. . . I only demur to the assumption that the subject-object relation itself is causal." (*Naturalism and Agnosticism*, Vol. II, p. 117.) Now, it is generally agreed that the causal category is fundamental for the physical world. Hence to exclude it from epistemology is to admit that the two fields differ markedly. Yet I feel certain that many arguments for the cognitive relation are based on an assimilation of knowledge to a physical act. As has sometimes been pointed out, there is likewise a tendency to read the presence of the body in perception into the cognitive attitude and to confuse spatial relations with a supposed cognitive relation. In like manner, there is danger of conceiving cognition as an act of the mind directed upon an object outside the mind.

There is, however, another motive for the assumption of a cognitive relation. It may be asserted that in cognition we

experience a unique relation of "presence to," or togetherness. The object is together with the self in cognition. This motive is probably the strongest one for the assumption of a cognitive relation.

In the chapter on "Distinctions within the Field," we tried to distinguish between the elemental unity of the field, which I designated by the term "togetherness," and the more special contrasts which were developed within it. Such contrasts arise on the surface of what is a unity of a peculiarly intimate sort. The antitheses between the self and the not-self, the subject and the object, the past and the present, the idea and its object, are examples of contrasts within a basic unity. Now, it is a mistake easily made to read into these oppositions a relation of a peculiar sort to reconcile them with the unity which they seem to outrage.

If the distinction between the field in which there is no sheer separation and the special contrasts which arise within it is kept in mind, the nature of the so-called act of cognition becomes clearer. The subject-self takes the cognitive attitude toward some object in the field. But the subject-self as the centre of control is thought of as the "mind," while the object is regarded as non-mental. We have, in other words, the presence in the field of the individual's experience of an object which is not considered a part of the mind, and the attitude taken toward it on the part of the subject-self. We saw how this contrast led common sense to Natural Realism. Idealism rebukes Natural Realism and asserts that the object is connected with the mind by a relation. We are beginning to see that both are right and both are wrong. The object directly present to the "mind" in the narrower sense is a part of the field and is mental in the larger sense. Here idealism is right. However, we do not experience a relation of a peculiar sort, but a contrast in which the object is experienced as independent. Here Natural Realism is right. Enough has been said, I think, to show that the cognitive relation is not experienced, but is a creation of reflection. When we take the cognitive attitude, there is a contrast of parts of the field which are yet together.

Many idealists have recognized the fact that idealism

really founds itself on the unity of the individual's experience rather than on an internal cognitive relation. Since we have already persuaded ourselves that this unity is a fact, the conclusion which idealism draws from it should be of especial interest. Let us glance at Mr. Bradley's use of this empirical principle. "For if, seeking for reality, we go to experience, what we certainly do *not* find is a subject or an object, or indeed any other thing whatever, standing separate and on its own bottom. What we discover rather is a whole in which distinctions can be made, but in which divisions do not exist." (*Appearance and Reality*, p. 146.) In contrast to the unity of the level of mere sentience, the later level contains the contrasts characteristic of the practical and theoretic attitudes (p. 463). The interesting feature of his treatment is his essential recognition of the dualism of the cognitive attitude. "One or more elements are separated from the confused mass of feeling, and stand apparently by themselves and over against this. And the distinctive character of such an object is that it seems simply to *be*. If it appeared to influence the mass which it confronts, so as to lead that to act on it and alter it, and if such a relation qualified its nature, the attitude would be practical. But the perceptive relation is supposed to fall wholly outside of the essence of the object. *It is in short disregarded, or else is dismissed as a something accidental and irrelevant.*" (Pp. 460-1.) (The italics are mine.) Now, this analysis is a classic, and the empirical idealists should give it due acknowledgment. The subject-object relation is not looked upon as a transcendental mystery, but as a distinction developed in time (*cf.* note on p. 460). Still he retains it, though phrase after phrase discounts its conscious presence. With Mr. Bradley's position I am essentially satisfied, although I am convinced that the opposition between subject-self and object usually dominates the togetherness of the field.

From the process side, experience does present a unity of a progressive sort. Objects do not permanently retain that fixity and aloofness with which the cognitive attitude endows them. Currents of influence pass from the subjective side to the objective and from the objective to the subjective.

Reflection remodels and reinterprets idea-objects according to some dominant problem or purpose, while feeling floats like a veil over the field of the individual's experience. No fact stands on its own bottom and successfully denies the suzerainty of the whole. Such vital interdependence of the parts in the temporal achievements of experience with its recognition of the penetrating authority of thought, reflective and unreflective, is the teaching of logic and of psychology. It is upon this rock that idealism should take its stand rather than upon the quicksand of some formal principle. Thought is the movement of readjustment and of creative construction in the continuous field of the individual's experience. It must be borne in mind that this view does not make thought subjective, but lifts it from its traditional psychological subjectivity to a logical objectivity and places it among the objects and ideas whose mediation and testing it is. I wish, however, to stress emphatically the fact that such thinking works within the field of the *individual's* experience.

But what does this frank admission that the objective spheres are open to thought imply? Primarily, that knowledge is an achievement and not a gift. This, it has always seemed to me, is the contribution which idealism makes to philosophy. This fact has had few doubters among those who have made a name for themselves in the field of science. The immediate datum apprehended simply and without mental toil and method vanishes upon closer inspection. A fact for science and a fact for common sense differ in texture and in validity, and they resist in unequal degrees the acid-test of new facts and a larger context. We shall agree, then, with idealism that knowledge is an achievement, and we shall emphasize with subjective idealism that it arises in the minds of individuals. We shall, however, deny that the cognitive attitude within the individual's field of experience is supplemented by a relation which connects the subject-self with the object.

But an unwarranted deduction is drawn by idealism from the unity of the individual's experience. The objective spheres which grow up in men's minds through the interplay of immediate experience and ideational activities until they

bloom forth as worlds open to cognition are adjudged the outer limits of reality, beyond which lies emptiness. In other words, it is assumed that the individual is unable to refer his knowledge to that which is other than experience. To use a cosmic parallel, experience is a universe bounded by void reaches of space in which the weary imagination can find no resting-place, the thing-in-itself being a virtual image whose source is discovered by reflection to be within experience.

The decision of the idealist that extra-experiential reality is meaningless rests on two main principles: The principle that the causal category has validity only within experience, where it links phenomena together and, therefore, cannot be employed to join extra-experiential realities with the individual's experience; and the principle that "to be real or even barely to exist must be to fall within sentience." The first principle is typical of the idealism founded on the theory of knowledge of Kant; the second is more characteristic of Berkeley. This second principle is to-day championed by Bradley. Let us examine, first, the view that the causal category cannot be used to connect extra-experiential realities among one another and with the individual's experience. To understand the meaning of this principle, we must consider it in connection with a criticism of the Kantian philosophy.

A typical statement of the idealist criticism of the realistic element in Kant's philosophy is to be found in Miss Calkins's book entitled *The Persistent Problems of Philosophy*. "Things-in-themselves are, by hypothesis, independent of consciousness, yet they must be talked about and thought about if they are to be inferred as existing. They are drawn, thus, into the domain of the self, they become objects of consciousness, no longer independent realities" (p. 240). It is evident that the assumption is that *to know is to bring into consciousness*. Let us see how this assumption grows out of the Kantian point of view. The problem raised is fundamental for the cognitive import of the categories, and must be faced squarely.

We have seen that the cognitive attitude encourages the development of realistic meanings within the field of the individual's experience. Kant realized this fact and called his position empirical realism. We may indicate this by a

description of the field of the individual's experience. Each person thinks of himself as real and at the same time thinks of himself as in relations to other persons and to things. These are realities on the same level as himself. The individual takes the same cognitive attitude toward himself as toward others. The content of his mind at any moment is, implicitly at least and at certain moments explicitly, a sort of map of persons and physical things in complex relations to one another. All these are thought of as having that independence and realness of which Mr. Bradley speaks. When we finally come to state our own position, we shall lay great stress upon this empirical realism as the natural basis for a more critical realism. But, if knowledge involves the categories, and these are entirely and uncontrolledly mental, what guarantee have we that knowledge is not a subjective creation? Once grant that forms and relations are contributed by a mind uncontrolled by independent realities, and agnosticism undeniably follows. But both psychology and logic have long moved from the Kantian standpoint. The field of the individual's experience is a continuum, and in it continuities and relations are as much and as primitively present as the sensory qualities. This conclusion, which, in the English-speaking world, owes its recognition mainly to the work of James Ward and William James, is now becoming generally conceded. It measures up to the facts of an unbiased inspection. But the significance of this conclusion for theory of knowledge has not been realized.

Along with the rejection of the Kantian distinction between form, contributed by mental faculties, and the inchoate manifold of sense has gone a renewed interest in percepts as contrasted with sensations. Percepts are now regarded as empirical growths whose genesis and characteristics can be explained only by the synthetic capacity of consciousness working under the control of the environment. The motor aspect of consciousness is emphasized in a way that brings out this control. Percepts are thus controlled constructs developed in the objective sphere of consciousness as thing-experiences. The same empirical view of the development of the objects in consciousness is being carried to conceptual objects. In this domain, the process of construction is

often a conscious one. Let me repeat my definition of thought, which fits in with this view. Thought is the movement of readjustment and of creative construction in the continuous field of the individual's experience. The specific processes involved in it, as analysis, synthesis, hypothesis, checking by new percepts, etc., are treated in any good logic, so they need not be examined here. The main point to be stressed in the contrast with the Kantian logic which I have in mind is the control of constructive thought by percepts and thus, indirectly, by the environment. This view of thought may be accepted, but the query may at the same time be made, How can you be sure that an environment external to consciousness controls the formation of percepts and, hence, of concepts? Psychology assumes it and seemingly for very good reasons, but, then, psychology is a special science and accepts the realism of the physical sciences as a contrast-basis for its own material and methods. This objection is the classic *caveat* to the hasty assumption that the standpoint of psychology is sufficient to found a realism on; but, if the theory that percepts are controlled by the environment can be shown not to conflict with theory of knowledge, it and the facts which support it point toward a control of the categories by the environment and, therefore, to the possibility of a mediate realism.

Before we pass to a criticism of the idealist *reductio ad absurdum* of the doctrine of things-in-themselves, *i. e.*, in present-day terms, of an environment known to be independent of consciousness, yet conditioning it, let us contrast the Kantian theory of the categories with the implications of the foregoing sketch. For Kant, the categories are the pure forms of the understanding, a faculty separate from sense and uncontrolled by it. There is, consequently, in his theory of knowledge a fundamental dualism to begin with. The formal aspect of percepts as well as the synthetic principles which furnish the supporting structure of scientific knowledge derive from the understanding. In other words, all combination, all relation of however specific a character, all organization to be found in experience comes from the understanding. This startling position is partly obscured from the ordinary reader

of Kant by the interminable twistings and turnings by means of which he covers up what is the only logical doctrine to be sifted out. The imagination to which he makes appeal to account for the specific combinations which precede the more general syntheses of a higher order effected by the understanding proper is, and can be, nothing but the understanding working unconsciously. Moreover, no cue can be found in the sensory manifold for the infinite variety of forms and relations which make the phenomenal world so complex, for a cue would imply the suggestion of the structure and relations of phenomena to the understanding, which would have only the function of interpreting these indications and bringing them out into relief. And this relationship between sense and the understanding would make sense the artist and understanding the artisan. Or, to employ a simile from the field of photography, sense would correspond to the condition of the sensitized plate after the exposure, while the activity of the understanding would correspond to the function of the developing fluid. Hence, given his crass distinction between form and matter, sense and understanding, passivity and activity, Kant is forced to make all but the purely qualitative side of nature dependent on the arbitrary modeling of the mind. And even this counsel of despair is unsatisfactory, because qualities, in so far as they are terms, cannot be related arbitrarily. To put sounds side by side in space and to arrange colors in octaves would hardly be a successful method of procedure; yet, upon the Kantian basis, one should be as easy as the other. It has been necessary to state Kant's primary position thus barely and unsympathetically and to separate it from his attempts to overcome the dualism in his theory of the constituents of knowledge—attempts which are painfully futile—in order to realize the essential nature of the categories as he conceives them. The categories are for him forms of unity resident in the understanding and applied by it to the material of sense already more or less rationalized by the previous work of the imagination, a lower stage of the understanding. Hence, that part of experience which is most emphasized in science, and in terms of which the structure and functions of physical things are stated, is assigned a subjective

origin. To put the consequences of this position on the biological side where its implications become more specific and, *a fortiori*, more absurd, the structure and connections of the things in the environment to which the body must react in order to survive, are subjective assignments legislated by the understanding. Knowledge is, then, an amalgam in which the most important constituent, that furnished by the understanding, is uncontrolled by things-in-themselves. It is not to be wondered at that Kant adjudged things-in-themselves to be unknowable. Even if knowledge, as we shall hold, does not require the presence of the existent known in consciousness, it at least presupposes, as a condition, the control of experience by that which is known. This control need not be—as we study psychology and logic we realize that it cannot be—of a mechanical nature. Kant's mistake, then, was to assume a dualistic theory of the constituents of knowledge which precluded this control from those reaches of experience in which knowledge is ripened. Instead of the control by things-in-themselves being *continuous*, as the methodology of science certainly seems to indicate, it is temporary and limited to a fictive sense-manifold.

We are now in a position to develop the implications of our own sketch of the *locus* and control of the categories. In doing so, three motives are discovered to point in the same direction, and this convergence of distinct investigations to one result will give us increased assurance of the correctness of our approach. The first motive is the generally acknowledged failure of the Kantian theory of the constituents of knowledge. The fundamental dualism within experience which it postulates leads to an endless number of artificial problems which require additional hypotheses. Even were these relatively successful, the complexity of the whole would condemn the primary assumptions, if a simpler analysis were forthcoming. Hence, a theory of the growth of knowledge which accepts a fundamental continuity between perception and thought, in so far as it excises the morbid basis on which these artificial problems flourish, must be regarded as a step in the right direction. The second reënforcing motive is the empirical analysis of experience, which, as we have indicated above, is

wholly against the Kantian separation of form from matter. Instead, relations and categories appear immersed in the objective continuum spread out before us and are analyzed out and used by thought in the solution of problems which concern the interpretation of that continuum. Concepts and universals, in short, arise from, and play back into, the perceptual field under the spur of either practical or theoretical interests. We must not, however, for the sake of simplicity, limit the source of the categories to the domain of external perception; the inner sphere, also, contributes elements which enrich and deepen the construction of such fundamental meanings as "identity," "causality," "time," "substantiality," etc. The point to grasp is the growth of the categories from immediate experience and the fact that this growth is immanently controlled by experiences which lie deeper than our caprice. Evidently, the categories do not perform the tremendous function assigned to them by Kant, that of accounting for all the syntheses to be found in knowledge, when they are taken in this empirical way; rather do they interpret and carry further the syntheses from which they arise. They are incapable of explaining the continuities and unities which characterize experience as such or those powers of analysis and of organization which render knowledge possible. Certain capacities being given as preconditions of the rise of knowledge, the employment of these and their consequent increase in power and delicacy is due to the material which elicits them and which suggests the principles and concepts to be used. In short, organization is never absent from experience, no matter how far down into primitive sentience we go, and the lower levels control the higher so far as they set the problems and give the material upon which mental ability is to work. It is a mistake to regard intelligence as creative apart from that which calls it forth. It is a servant, not a despot. This status of intelligence is brought into relief in science by the constant appeal to new facts to test suggestions and the fruitfulness of facts in suggestions. In this second motive which supports an objective basis for the categories, we have drawn mainly on the testimony of logic, psychology, and the methodology of the sciences. To make the categories grow

from the perceptual field and to continue responsible to it is to transfer to them the possibility of control by things-in-themselves. I shall endeavor to show that such a control exercised by things-in-themselves, when it is strengthened by experiment and by the necessity for motor adaptations, is a sufficient foundation for the degree of knowledge we claim to possess of the physical world. What is needed, besides this indication of the basis of a realistic knowledge, is the demonstration, as against agnostic realism and idealism, that such a knowledge of reality external to mind is both thinkable and meaningful. We have tried to show that the categories are not contributed by the self in the Kantian way, and that they and the knowledge which they help to build up are objective to the individual and probably responsible to nature.

If there is every reason to believe that the categories are responsive to realities independent of the field of the individual's experience, why cannot they assist in giving us knowledge about these realities? Let us examine the idealistic argument against things-in-themselves in the light of the foregoing criticism of the Kantian theory of the categories. We are evidently desirous of showing that things-in-themselves are knowable and that they are really what the scientist calls physical things.

The assumption which the idealist makes is that to know is to bring within experience in a literal way. The reason for this assumption is twofold: first comes the Kantian tradition with its subjective note; then comes the limitation of knowledge to the dualism of the subject-object contrast. Because of these assumptions, the thing known is assumed to be literally present to the subject-self and to be formed largely by the uncontrolled activity of the ego. We have indicated reasons for the denial of the Kantian outlook; let us now give our reasons for the denial of the view that knowledge necessarily involves the literal presence in consciousness of the thing known.

In the fifth chapter, we stressed the distinction between the idea and the thing of which it is an idea. The idea, or concept, claims to give knowledge of the thing it means. The thing is absent, while the idea is present. This idea may consist of propositions which are referred to the thing. Here

we have the cognitive trinity to which I made reference a while ago, subject-self, idea-object (or series of propositions), and thing. Let us note at once that the idea-object is present in the field of the individual's experience, while the thing may be absent. Yet the idea gives knowledge of the thing. We have here a structure which can be employed by critical realism under the stress of facts to undermine the idealistic assumption made by Miss Calkins that to know is to bring into consciousness. When we analyze the knowledge of the physical world given by science we find that it is reducible to a knowledge of the relative sizes, the structure, the active properties, and the relations of things. Nowhere do we have the actual presence of a physical thing in the field of experience. We have, then, good reason to deny the proposition that objects to be known must be drawn into the domain of consciousness.

But, if we can possess knowledge of physical things which remain outside the field of experience, what right has a critic to assert that we are unable to think of these objects as interacting and as affecting ourselves? The fact is, we do so think. In the empirical realism which Kant emphasized, and which is little other than a critical statement of Natural Realism, we think of ourselves as persons with minds in active relations with persons and things. Psychology, in its assumption that percepts are induced by stimuli coming from the physical environment, is only accepting the realistic outlook common to everyone. The further step which reflection forces us to make is to assert that we have knowledge of these interacting things, but that the things themselves do not enter the field of consciousness, even though they control it. Since I look upon my experiencing as existentially connected with my body and my mind, it is evident that I relate things to my experience at the same time that I relate them to the psycho-physical organism. The truth is that the principle to which the idealists appeal must be restated; it is then robbed of its terrors. The causal category grows up in the outer sphere of experience to enable us to express our knowledge of the changing relations of physical things to one another and to ourselves. The causal category does not join realities, for the very good reason that they join themselves.

When we think of a reality in terms of our knowledge of it and connect it with our field of experience by means of the causal category, we are really building up a construction within our experience as a whole. That we possess such a construction cannot be denied. That we are practically forced to make it by the characteristics of our experience I hope to demonstrate in the next chapter. Kant used it when he asserted that the world of phenomena is logically prior to the subjective realm. The Kantian phenomenon is the physical thing as known by the science of the eighteenth century. Because of his logical impersonalism, Kant doubled up on the thing-in-itself. I have given many reasons why the Kantian theory of the origin of the categories is indefensible. I have also tried to show that the Kantian theory of cognition upon which the idealist bases his rejection of things-in-themselves as involving a contradiction is a presentationalism. With the rejection of these two supports, the attack upon the use of the category of causality to account for the individual's thing-experiences falls to the ground.

We are at length in a position to discuss intelligibly the principle, employed rather dogmatically by Mr. Bradley, that "to be real or even barely to exist must be to fall within sentience."

When we examine Mr. Bradley's argument, we find that it turns out to be a very cogent statement of the idealistic motive we have amply satisfied in the Advance of the Personal. "Find any piece of existence, take up anything that anyone could possibly call a fact, or could in any sense assert to have being, and then judge if it does not consist in sentient experience." (*Appearance and Reality*, p. 145.) We shall call this the *argument from content*. Our position that the total field of the individual's experience is mental would seem to grant what is demanded. In our conclusion that knowledge about persons and things is not the presence of the object known, as Natural Realism supposes, we have admitted all that this argument from content can require. Knowledge consists of tested judgments, and these judgments are within the individual's experience while they are asserted to hold true of that which is outside the individual's experience. When

knowledge is taken in this more critical way, it is evident that Mr. Bradley's axiom loses its force as a basic and final proof of idealism. If cognition by means of concepts is treated as valid of that which does not exist in consciousness, it is scarcely a convincing argument against such a reference to say that knowledge—that which is known of reality—is within the mental field.

If knowledge involves no cognitive relation between the mind which knows in terms of propositions and the things known, does it imply a unique sort of transcendence? This is the objection which is usually advanced against a non-presentative realism, but it is based on a complete misunderstanding. The implicit assumption which lies back of it is this: the object known must be present to the knowledge. The transcendence view is the ghost of a presentational theory of knowledge. The mind which knows things and persons must have had a direct or an indirect commerce with them in order to build up the knowledge which it has, but this commerce must not be confused with a relation within knowledge itself. Reference is achieved by the structure of the field of experience so that it is entirely internal and empirical. Empirical realism gives the foundation for critical realism. But we shall discuss the problem of reference or denotation in another chapter.

In the present chapter, we have tried to show the weakness of both the formal and the empirical principles upon which idealism is founded. We saw that the formal principles were quite invalid, while the empirical principles worked against immediate or presentational realisms and not against a critical or non-presentational realism. The error involved in idealism turned out to be the assumption that knowledge demands the presence of that which is known. In the past, both idealism and realism have had this assumption in common, and the result has been an endless and rather sterile wrangling in regard to the nature of a supposed cognitive relation. Critical realism denies this assumption and thus is able to gain a more adequate point of view which does justice to the truth of both realism and idealism.

CHAPTER VII

THE INSUFFICIENCY OF MENTAL PLURALISM

IN THE preceding chapter we confined ourselves very largely to a consideration of the formal principles upon which idealism is usually based. Were there such *quasi-apriori* principles, the exhaustive study of experience to find motives which pointed beyond a pluralism of minds seemed a work of supererogation. The Advance of the Personal, instead of being a stepping-stone to a more adequate view of knowledge of a realistic type, would reveal itself as a tidal movement engulfing all realisms, Natural Realism included. But our examination of idealism, far from supporting the claims of those epistemological principles upon which idealism relies, led to the suggestion of a view of knowledge which would include and satisfy the idealistic motives, yet grant all that realism could rightly demand. The result was that realism presented itself as formally thinkable. The question before us now is, accordingly, whether or not realism is forced upon us by the empirical characteristics of our experience. Idealism and realism may be considered as two hypotheses which seek to cover and to explain the facts. Of these two, idealism is in a sense the simpler, since it limits reality to the contents of a pluralism of minds. Hence, it is best, as a matter of method, to examine idealism to see whether it is sufficient to account for the empirical facts.

To this program the reader may reply that idealism is limited to subjective idealism and that this limitation gives an unfair advantage to realism. "The objective idealist," he may say, "acknowledges the insufficiency of subjective idealism to explain the nature of our experience. Hence, your method involves a begging of the question." This objection is in a sense valid. Very few idealists are avowedly subjective idealists. Actually, however, the majority of them are fundamentally influenced by arguments against realism which are strictly those of subjective idealism. I refer

especially to the content argument of Mr. Bradley and to the corresponding endeavor of Berkeley to show that the external world is reducible to what is undeniably mental. Besides, objective idealism is virtually an attempt to satisfy realistic motives and instincts while admitting the validity of the arguments of subjective idealism. Remove these principles, and you draw out the support from under objective idealism. The main battle which realism has to wage is against subjective idealism. After that is through, it can turn its attention to the weaknesses of objective idealism with confidence.

As the result of the Advance of the Personal, the external world seemed to lose the independence which it possesses for common sense and to shrink into a temporal continuum of *my* percepts and concepts. For other people the same metamorphosis had to be postulated. The one common world in which we live and act retreated into the distance and became dimmer, while in its former place was found a plurality of corresponding perceptual and conceptual experiences. In brief, a pluralism of minds with partially similar but unsharable contents dispossessed for reflection the common physical world open to the inspection of all. We need not recapitulate the motives which led to this important reinterpretation of what appears to every man his immediate and almost transparently certain experience. Suffice it to recall that the physical world lost upon examination the immediacy which it possesses for the plain man and appeared dissolved into a multitude of objective, yet personal, percepts and concepts. We were not, however, induced because of this hastily to assume the dogmatic, idealistic principle that, to be for the physical world is to be perceived or, better still, to be experienced. Such over-hasty conclusions are examples of that *petitio principii* which is too frequent in metaphysics and which is rightly considered a scandal. The philosopher should be content to advance step by step in his analysis of experience. The mental pluralism at which we have arrived by means of an examination of experience is, consequently, to be identified neither with idealism nor with realism. These terms have as yet, strictly speaking, no applicability.

The facts which demand interpretation are essentially as follows: Individuals are unable to possess identical percepts and meanings, yet they communicate and have every reason to believe that they understand one another. Of course we must not exaggerate this insight into another's mind; it has its degrees and probably never is perfect. Because we were interested in the facts, we were able, in the Advance of the Personal, to face solipsism without a tremor. The minds of individuals do not overlap so that they have experiences literally in common, as circles which intersect have points in common; yet these minds do *somehow* communicate and influence one another both to knowledge and to action. Thus the facts corroborate mental pluralism when by this term is meant the assertion that individuals cannot share numerically the same percepts and meanings, but the facts are outraged if isolation and non-communication add themselves under the guise of deductions. So long as we are empirical, these additional assertions have no tendency to intervene, since they contradict the social nature of our consciousness and of our activities. They are the result of a too hasty assumption that, with the breakdown of the common world of Natural Realism, the medium of communication is removed. A gulf seems to yawn between minds where once was the friendly and subservient physical world. We must not forget, however, to state among our facts a continued belief in a physical world now known to be distinct from the individual's percepts and concepts. Such a physical world is a hypothesis, almost a demand, requiring a new view of knowledge to make it thinkable, yet it looms in the background of empirical mental pluralism.

While we have denied that solipsism is a logical deduction from the empirical facts which have destroyed Natural Realism, it will be well to consider at this point in a little more detail why this is so. Solipsism is a metaphysical position, and not an empirical fact. Furthermore, it is based on a limitation of an idealistic principle which makes the principle more dogmatic than it is in its broader form. To be is to be experienced, is the formal idealistic postulate directed against the independent existence of the external world. In order

to arrive at solipsism, it is necessary to extend the reference to include other selves as well as nature, and then to limit the experiencer to himself. Being is inseparable from *my* experience. Now, no one has ever claimed that such a principle has a basis in intuition. It is certainly not suggested by the experience of the individual which, instead, is lavish in its recognition of being; nor can such a limitation be deduced from the concept itself. Consequently, solipsism as a point of view thinkable although seldom if ever held, is the outgrowth of a certain reflective perspective. The reduction of physical things to a manifold of thing-experiences in the minds of distinct individuals is the opening wedge to the conquest of all presentable objects by the mind to which they appear. Whatever else they may be or stand for, objects are seen to be contents. As contents they are inseparable from the mind whose experiences they are. Hence, the personal, or (as it is frequently, though wrongly, called) the subjective, secures a certainty and immediacy strongly contrasted with that which claims to be other than a content. The breakdown of Natural Realism carries in its train as an inevitable result the tendency to link all objects to the self. They become dependencies of the self, satellites or planets which revolve round it as the dominant body. But *the* self can only be *my* self, since selves do not experience in common. The reduction of objects to contents leads inevitably to a contrast between the immediacy of my own field of experience and the aloofness of the experiences of others. These fields, each with its own centrality, are, by their very nature, systems which cannot intersect. Even a symbiosis seems unthinkable. Each system is a universe of finite dimensions beyond which there is nothingness. Such is the construction we seemed forced to erect. But this absolute pluralism of self-centred fields of experience is logically unstable and tends to break down as a result of an internal conflict between two points of view. Looked at from the point of view of objects known, I am only one self among others, each with its unique field of experience; seen from the personal or content point of view, these other selves forsake their independence and enter *my* field of experience as constituent parts. Thus the universe, so

far as it can be thought by me, must enter into my consciousness. The form it takes there is, beyond question, tinged with the unity of which it becomes a part. Or, to put it in less easily misunderstood terms, the universe is for me at least my idea; whether it is more, as cognition claims, is a question which must be frankly faced no matter how absurd such a question may appear. To ask it does not express doubt that there is a universe independent of the field of my experience, but indicates a desire to realize how I know there is such a universe and what knowledge of it may mean and imply. The Advance of the Personal when unflinchingly followed to its conquest of other selves as well as the external world does not, however, necessitate solipsism. Our knowledge of other selves is seen to be content just as our knowledge of physical things is. The immediacy of Natural Realism is recognized to be valid in this case no more than in the other. All things which I can know must have their representative in the field of my experience; but I do not see that from this the deduction can be made that nothing outside of the field of my experience can exist. Such a deduction, as we have pointed out, would require as premise the principle that being is limited to my experience. We have the right to say, then, that solipsism is not a valid inference from the Advance of the Personal and the breakdown of Natural Realism.

Instead of taking an evidently absurd position on the strength of a principle which is not suggested by experience and which cannot be regarded as analytic, it is more wholesome to accept mental pluralism in the broad and qualified sense in which a critical experience presents it and to seek to discover what it involves and suggests. Such an empirical *via media* runs safely between two untenable extremes, solipsism on the one hand and the absorption of the individual consciousness in a supposedly inclusive social consciousness on the other. It is noteworthy how many thinkers pass to one or the other of these extremes, unable, it seems, to maintain their equilibrium under the stress of opposing motives and, hence, swinging to either side instead of seeking an explanation which would satisfy both motives. It is unfortunate that few can distinguish clearly between a complete description of

experience and an assertion of ultimate theory. Consciousness is social, yet consciousness is individual. How shall we do justice to both these facts at the same time? Only by a sane interpretation of both motives and a theory which assigns to each its proper place.

We are now in a position to state the data from which we can rightly start. We shall assume, as a minimum which idealism grants, the existence of other minds of like nature with our own. Our belief in the existence of other selves has such a definite basis in the growth and the contrast implications of our own objective or empirical self that it would require a tremendously strong motive to cast doubt upon it. Such a motive has, to my knowledge, never been advanced. Into this problem we shall, however, enter *in extenso* in a later chapter. What I wish to point out is, that idealism need not rely, as with Berkeley, on the argument from analogy for the existence of other selves. The characteristics and contents of each mind are matters of first-hand acquaintance to each. Each individual must reason from his own field of experience. While a knowledge of logic and of psychology enables him to describe this field more minutely and to understand better the processes which occur in it, the broad outlines are recognizable by all. There is, first, that domain of experience which is called the external world of physical things. These appear, disappear, appear again and are recognized; they are relatively the same from time to time, yet classes of them change at different rates and in different ways. We have already described this realm, and, even had we not, it is so familiar that further description is, at least for our present purpose, unnecessary. In contrast to this realm of bodies is the sphere of ideas, plans, memories, and imaginations, which are brought into touch with the physical world in judgment and in action or are held separate as merely personal and as having no direct bearing upon it. Such, in outline and viewed from within, is the experiencer's world, and this when taken, not passively like a lifeless picture, but as caught up into the activities which sustain and produce it, is for me the individual's mind. Concrete, you see, and quite independent of particular logical and psychological theories. The self,

physical things, and other selves as idea-objects, processes—such as thinking, willing, attending to—all these are parts of and processes in each individual mind. Such a mind has an internal structure in which processes are related to contents as activities to their objects. Each mind is, indeed, a microcosm and may rightly be supposed to mirror a world. Moreover, we must never forget that each mind claims knowledge of other minds, and there is no adequate reason to deny that such knowledge is possible. Minds in this concrete sense, then, furnish the justified basis on which philosophy must explain experience.

While the foregoing data give the brightly illuminated centre from which we must work gradually outwards, certain demands and constructions characteristic of these minds point out beyond the definite to what is problematic and, as it were, marginal. My mind claims a knowledge of an external, impersonal world in which I live and move and have my being and by means of which I communicate with my fellows. It asserts that it is somehow most intimately connected with a part of this world which it calls its body, and that, by means of this body, it exerts influence upon this envioning world and makes it relatively subservient to its purposes. Furthermore, it acknowledges that its experiences come and go while this envioning world, which it calls nature, is far more enduring. These constructions and beliefs present reflection with problems whose historic insistence should warn against a too facile treatment. The sufficiency or insufficiency of idealism must be adjudged with reference to the satisfaction which it is able to accord these beliefs and constructions. It may be that, if we examine more reflectively the tested basis upon which philosophy counts, *viz.*, mental pluralism, we may discover a clue to guide us in dealing with these elusive and tantalizing problems.

Our basis secured, we wish to show now that mental pluralism as a theory is unable to answer certain fundamental questions which it itself evokes. In other words, the characteristics of experience force us beyond idealism as insufficient and suggest a realism of a more critical character than Natural Realism as alone satisfactory. It is true that

objective idealism seeks to enter the breach and hold the day for idealism. However, the weakness which it has exhibited on the formal side robs it of strength and attractiveness. It is too evidently unempirical and a *pis aller* to awaken the allegiance of the modern thinker trained in science. Moreover, it fails miserably whenever it is asked to solve a concrete problem like that of the mind-body relation. It moves too much in the region of abstractions, such as "experience-in-general," to be able to appreciate and to state in rugged and meaningful terms a problem which always threatens a dualism. By this statement I do not mean that thinkers trained in objective idealism may not assist in the solution of the problem, but that their allegiance to the standpoint of the whole, when this whole is stated in terms of mind, unavoidably leads to the suggestion that the body is more or less appearance. If the finite mind be also considered appearance from the view-point of the whole, matters are not much improved. The way in which we relate two appearances cannot be regarded as seriously as the problems of how two realities are related. The keen edge is taken from the problem; it is now considered methodological in character. But more of this later, when this particular problem comes up for analysis and solution.

The thinker who accepts the qualified form of mental pluralism which the Advance of the Personal has forced upon us must cope with several difficult but extremely suggestive problems. These arise so naturally that only mental confusion or a will not to see them can keep them down. The reason why they have been kept in the background and their significance for metaphysics unrealized is—I am convinced of it—that the analysis which gives the setting for metaphysics has been vague and inadequate. Metaphysicians have struck out blindly under the urgency of general motives, as a swimmer thrown overboard on a dark night strikes out gaspingly in any direction in his blind search for land. Idealism has only too often been satisfied with the promotion of experience to the position of an ultimate term without demanding whose experience is in question. Now, such a vagueness in the statement of the terms involved inevitably brought as a

consequence vagueness and lack of localization in the questions asked. Take Kant, for instance. Recent investigation seems to prove that, in his refutation of idealism, he really affirms that bodies in space are things-in-themselves. (Cf. Prichard, *Kant's Theory of Knowledge*, p. 321.) This affirmation, however, contradicts his own characteristic position. Again, his dualistic theory of knowledge springs from the absence of an empirical analysis of actual experience. Yet Kant sinned less than the traditional Continental philosophy; his orientation is more assured, more a matter for reflection. Once more, Hegel's neglect of the individual as the unit of experience was undoubtedly the cause of his panlogism and of that "unearthly ballet of bloodless categories" of which a certain writer speaks. The movements in philosophy of recent years consist largely in an attempt at an empirical orientation which will avoid the pitfalls of psychologism. What characterizes them in the main is a reaction against experience-in-general and against an absolute consciousness as the beginning from which philosophy must work. The position that holds consciousness or experience to be social, which we have already criticised, is an advance from this standpoint over the experience-in-general of many writers. Yet the type of pragmatism which advocates social experience as the ultimate basis fails, as we shall see, for that very reason to ask and answer sharply the problems which are persistent and permanent. In brief, *incomplete analysis* carries with it blindness to the very facts which have the power to suggest pregnant inquiries and explanatory hypotheses. The proper orientation is over half the battle. Idealism has never been desirous enough of problems. Confident of formal principles like *esse est percipi* and non-contradiction, it has tended to slur over problems rather than eagerly to welcome them. Having removed the support of these principles in a preceding chapter, it will give us peculiar pleasure to bring forward the difficulties which confront mental pluralism.

There are seven main questions with which mental pluralism must reckon. Under their stimulus, mental pluralism will lose its ultimacy and will suggest supplementations in accordance with principles already implicitly contained in itself; it

will reveal itself in its true light as a point of departure.

The first problem which challenges the finality of mental pluralism may be stated as follows: Within the field of each individual's experience there arises the distinction between the physical and the psychical. Why is this? Is it simply a fact which we must admit, but which we cannot explain; or does it rest upon and reproduce a difference in reality which idealism as such cannot grant? Let us look a little more closely at this contrast. The outer sphere of the individual's field of experience consists of bodies in relation to one another. These are adjudged common and more or less permanent and in direct or indirect relation to the individual's body. In contrast to this domain is the psychical sphere which is personal and transitory. It seems to flow alongside of the permanent sphere and live largely as a changing atmosphere of it. Thus we have *ideas of things*, *memories of things*, *imaginings based on things*, etc. These are transient, while the outer domain of which they are satellites is considered independent and stable. There are several species of the genus psychical, and these are united by their common contrast to the physical realm. There are processes like reasoning, acts like attention, "true" ideas, "false" ideas, dreams, sensations, feelings, plans, etc. Some of these are "objective"; some are "subjective," as mental acts or attitudes are in contrast to their objects; some are subjective, as deposed meanings are in contradistinction to accepted theories; others are subjective, as things admittedly mental are in contrast to that which is physical. But all are felt to belong to the inner world, and all are transitory. When we come to examine these two spheres, the physical and the psychical, we find that one is as immediate as the other, yet they are thought of as existentially distinct. The preposition "of" in the phrase, "idea of," is not symbolic of any actual relation, but, instead, of a distinction between two spheres with different characteristics. Whatever relatedness seems to overarch this separateness is due to the fact that, in spite of the accepted existential distinctness of the two spheres, they nevertheless coexist in the field of the individual's experience. Is not the presence of this existential contrast within the individual's

experience curious? More curious still would it be had it no symbolic significance. Again, why does the psychical tend to engulf the whole of the individual's experience at the same time that it recognizes its relativity to the physical?

There have of late been attempts to explain the distinction between the physical and the psychical as one of context. Probably William James deserves more credit than any other one individual for the opening up of this point of view. His conclusion is that "thoughts in the concrete are made of the same stuff as things are." The primal reality is "pure" experience, and each bit of pure experience may be, and usually is, taken in two contexts; in one context it is the physical object, in the other it is the mental. "The one self-identical thing has so many relations to the rest of experience that you can take it in disparate systems of association and treat it as belonging with opposite contexts. In one of these contexts it is your "field of consciousness," in another it is "the room in which you sit"; and it enters both contexts in its wholeness, giving no pretext for being said to attach itself to consciousness by one of its parts or aspects and to outer reality by another." (James, "Does 'Consciousness' Exist?" *Journal of Philosophy*, etc., Vol. I, p. 477.) It is evident that our own position agrees with that of James on many points, but it differs from it on other — and fundamental — points. In the first place, we agree that, when an object is considered physical, it has a context in the outer sphere quite different from that which it would have were it considered psychical. But the vital question is this: Does it have these associates *because* it is assigned to the outer sphere, or is it assigned to the outer sphere because it has these associates? In other words, is not the matter of associates a consequence of something more fundamental? We have seen reason to believe that the dualism of Natural Realism is as primitive a distinction as we possess. Even here, however, the physical world stands as a stable domain shot through with characteristic meanings, many of which seem to have a basis in organic reactions. To exist in it involves independence, commonness, and describable causal and spatial relations. The genesis of these meanings can be traced with more or less certainty to motives within

experience. To do this appreciatively, yet critically, so that these meanings might not be misunderstood, has been an essential part of our task. As a consequence, we feel impelled to deny what James seems to imply—that the field of the individual's experience presents itself at first as "pure" experience, as "plain, unqualified actuality or existence, a simple *that*." What we do seem obliged to admit is, that an object of reflection may be held between the outer and the inner sphere and temporarily assigned to neither. Both, as it were, claim it, but neither has as yet had its claim acknowledged as valid. Unless it remain in this neutral state—like Buridan's ass—indefinitely, it falls, as the result of reflection, into one or other of the domains into which it naturally fits. It is in this way that judgment sustains and increases our world. But we must never forget that for us judgment works within a world already relatively organized. By means of an analytic study of the characteristics of the field of experience we can penetrate to the forces and motives which have produced this organization, but it is impossible to possess a "pure" experience uninfluenced by at least implicit relations to the established order. It is required of all objects that they give allegiance as soon as possible. There is seldom, if ever, any hesitancy on the part of perceptual objects.

Let us examine the physical realm a little more closely. Berkeley tried to differentiate "ideas" from images by reference to the fact that they do not seem to be under our control as images are. Hume emphasized a difference in vividness between impressions and thoughts. Perhaps spatial relation to our body and a disposition, more or less felt, to react may be added to the above-mentioned *differentiae* of the physical. While Berkeley was inclined to consider "ideas" passive in themselves, it cannot be doubted that we usually connect them with that which follows and judge them to be "causally" active. Real fire burns; mental fire does not. There can be no doubt, then, that there is ample *empirical* foundation for the distinction between the physical and the psychical. The question is: What does it signify? To make it merely a matter of context seems absurd. What we do is to connect the vividness of the physical with the stimulation of our sense-organs,

our lack of control of things with their independence, our tendency to react towards them with their equal reality and their influence upon us for weal or woe, their activity with processes in the world of which we are a part. In short, this distinction between the physical and the psychical is interpreted naturally in realistic terms. What concrete explanation has idealism to offer?

To conclude this problem. The physical realm claims to be independent of the mind, and there are valid motives which differentiate it from the psychical. These motives *must* secure satisfaction in any adequate philosophy, and idealism is unable to offer it.

The second problem which challenges the finality of mental pluralism is this: How is interpersonal intercourse possible? That it exists is admitted; but how shall we account for it? The pressure of this question was not realized by Berkeley. His main effort was directed to the disproof of matter, and after this was done to his own satisfaction—and, we may add, to the satisfaction of all those who realize what he meant by matter—his intellectual interest waned. Consequently, we find an almost total neglect of the problem of social knowledge. Our belief in other selves is accounted for by the argument from analogy. "The knowledge I have of other spirits is not immediate, as is the knowledge of my ideas; but depending on the intervention of ideas, by me referred to agents or spirits distinct from myself, as effects or concomitant signs." (*Cf. Principles of Human Knowledge*, sec. 145; *cf.* also secs. 147–8.) Berkeley seems, however, to assume that the individual has control over the motion of the limbs of his body, but asserts that such a motion cannot affect another unless God so will it. (*Ibid.* secs. 146–7.) He is forced to admit, in other words, that human beings are concerned with the producing of some changes in nature. We are face to face here with the mind-body problem, which he solves so facilely in the second dialogue between Hylas and Philonous. Surely if the brain is in the mind, the body must be, and what can the production of motions in the body by the will mean? Intercourse of any moment depends upon language, and this upon the production of motions in the throat. The conclusion

we must draw is evident. Either God mediates all communication from mind to mind directly, or he does so upon the production of motions in bodies which are as real as the individual minds, but under their control. In either case, mental pluralism goes by the board; God does what we ordinarily suppose the physical world to do. The question comes to be, accordingly, whether the hypothesis of an active spirit upon whom we depend for our percepts and for our intercourse with others is preferable to our natural assumption that activities occur in nature and are communicated by the body to the mind. I think every one will agree that the burden of proof rests on the idealistic realist. And it is not sufficient to show the absurdity of a crudely representative view of knowledge about the physical world or to point out the meaninglessness of mere being or to convince us of the inadequacy of inert matter. He who regards it as sufficient is guilty of the fallacy of *ignoratio elenchi* in that he assumes as disproved what has simply not been brought into the argument. Also, he is himself open to the *tu quoque* of his opponent. We are all aware that Berkeley had his nemesis in Hume, who speaks with the voice of experience. (Cf. *An Enquiry Concerning Human Understanding*, p. 75, Open Court edition.) We must first prove that God exists before we have the possible further right to account for human intercourse by means of his mediating activity. Now, Berkeley is honest enough on the whole not to resort to intuition. We do not perceive God, but argue to his existence by analogy. Just as we are led to believe in the existence of our fellow men by the nature and conduct of a certain collection of ideas, so we are forced to assert the being of God from our perception of nature as a whole. But it is, I think, generally agreed that idealism cannot resort to the argument from analogy. Hence, Berkeley is in sad plight. His is not a living hypothesis which has grown out of concrete experience, but a theory motivated by theological tradition. "We are ignorant, it is true, of the manner in which bodies operate on each other. Their force or energy is entirely incomprehensible. But are we not equally ignorant of the manner or force by which a mind, even the supreme mind, operates either on itself or on body?" These words of Hume, when taken

with a criticism of the argument from analogy, constitute the best rejoinder to the constructive side of Berkeley's teaching.

We have entered into such detail in our criticism of Berkeley in order to show two things: First, that such a keen thinker as he is admitted to be starts from mental pluralism and feels the need to supplement it with that which can serve as a realistic connective tissue; second, that his supplementation cannot be considered satisfactory. If nothing better than this can be done, and if, furthermore, metaphysics wishes to be considered a science, it is far preferable to rest with Hume in an unexplained mental pluralism.

But idealism has still another arrow in its quiver, namely, monadism. Probably the best contemporary discussion of pluralism from this standpoint is to be found in the last series of Gifford lectures delivered by James Ward. Let us briefly examine his position.

"For modern pluralism the universe is the totality of monads really interacting; and this is one fact. The plurality implies this unity and this unity implies the plurality." In other words, Ward recognizes, as we have recognized, that the empirical facts force upon us a belief in communication. What we have called mental pluralism is qualified from the first by this admission. The question, consequently, is not whether there be a unity, but *what sort of a unity* is suggested by the facts. Now it is evident that the monads themselves cannot be unified if this unification contradicts their monadic characteristics. To assert that they must be a unity either involves this inner contradiction or else it is a reassertion of the problem. The concrete unity which must be explained is not given by logic, but by experience. Sentient and conative beings can coöperate and do have the capacity to communicate with one another, which this coöperation involves. Upon this sort of concrete unity society and civilization have been erected. Now this sort of unity does not involve either literal contact or transeunt activity between the monads, nor can it necessitate, as so many have carelessly thought, a literal participation in the same experiences. If such were the case, pluralism would be outraged. So far, then, Lotze would seem to have been

warranted in his belief that the "sympathetic *rapport*" which exists between individuals is an "inexhaustible wonder." But, as Ward rightly indicates, this *rapport* covers no contradiction; it is only a fact to be explained. The problem, then, comes to be somewhat as follows: Shall we take refuge with Berkeley in a theism which is essentially unthinkable? or shall we insist on a *rapport* between individuals, on what might be called an intermonadic telepathy? or shall we seek to connect individuals, as common sense and science do in the main, by means of their bodies and the fundamental continuity of the physical world? We have already given our reasons for not regarding theism as a satisfactory hypothesis with which to supplement mental pluralism. Like preëstablished harmony, it is a counsel of despair whose supposed thinkableness rests more in feeling than in thought. As for the second possibility, it amounts to little more than an assertion that mental pluralism may be cosmologically ultimate but that it is not cognitively ultimate; human monads have windows. But the real problem to-day is not whether or not monads have windows, but What kind of windows have they? And here the only basis for serious suggestions is the empirical facts. Now, leaving aside the question whether telepathy is thinkable, there still remains the more matter-of-fact inquiry as to whether cases of it have been proved, and the still more matter-of-fact investigation which seeks to ascertain whether our experience suggests telepathy or some more indirect and mediate basis as an explanation of the fact of communication between minds. There can be, I think, only one answer to this inquiry. Communication is by means of the body and is therefore indirect. Cognition at a distance, without a medium, is even less indicated by our experience than action at a distance. We shall see that other problems support this contention. In this contention we have the support of those "stuff" idealists, the panpsychists. Ward, in his present work, Strong, Paulsen, Stout, and others accept the reality of the body as consisting of more than the individual's consciousness. Now panpsychism is a half-way house between subjective idealism and some more critical form of realism than Natural Realism. For it the external world is real, but

we can only know it by analogy; the world of nature as we *construct* it is entirely phenomenal and does not contain real knowledge. Be this as it may, for the present, our examination of the second problem—How is interpersonal intercourse possible?—has led us to realize with increasing clearness the insufficiency of mental pluralism. There must be a connective tissue in which these fields of experience act and have their being.

The third problem which confronts mental pluralism may be stated as follows: There exists an evident correspondence between my field of experience and those of other persons when we are in what we call the same situation. This correspondence is so great that it leads us ordinarily to believe that the *same things* are somehow presented to us. Even though we allow for the conventionalizing influence of social motives, there remains an original presentational correspondence that demands explanation. Why, for instance, do the students in a "quiz section" in philosophy have comparable desk-experiences so that you can analyze your desk-experiences and find that they agree with your analysis in the main? Point to the desk and they also see it; rap sharply upon it and they also hear a sound; move it and it moves simultaneously for them. Or, take the case of two travelers visiting a picture-gallery. They will enter at the *same* door, go up two flights of stairs, turn to the left and walk into a room on the description of which they will agree, and they will note paintings by old masters hung on corresponding parts of the wall, and so on. Why is this? The human mind is not satisfied to accept this constant perceptual correspondence as simply a remarkable fact. There must be a reason for it. Now, mental pluralism does not contain in itself that which can account for this agreement. Thing-experiences are given to the individual, not in the sense that he is absolutely passive in respect to them, but in the sense that they are not under his control as are his ideas, and that their content and relations are not deducible from any empirical, personal source. The recognition of this fact led Berkeley to his postulation of an active Spirit who produces these thing-experiences in finite souls; it moved Kant to his postulation of things-in-themselves—for Kant, however,

the finite soul contributes much that certainly does not seem under our control; it led Fichte to his postulation of the Absolute Ego; it motivates the emphasis which Bosanquet and thinkers of similar tendencies put on the contact with Reality in immediate experience. There must be a unity or connectedness as basic as the pluralism which reflection forces upon us. The insufficiency of mental pluralism stares us in the face. Practically all thinkers have agreed upon this conclusion; the question has been partly one of procedure, partly one of epistemological basis. With regard to the first, there is undoubtedly an increasingly strong current towards empiricism and induction. If a unity there be, we must work up towards it and not down from it. The epistemological aspect is, again, fundamental. A convinced idealist inevitably ends in theism or in absolutism. No better illustrations of this principle could be desired than Ward, Bradley, and Bosanquet. A convinced realist is more apt to seek the desired ground for the correspondence between the worlds of individuals in the reinterpretation of our knowledge about nature. However this may be, the search for a ground to account for the correspondence between the fields of experience bears witness to the acknowledged insufficiency of mental pluralism.

The fourth problem which mental pluralism must face is closely allied to the preceding one. It points in the same direction to an independent ground which controls the individual's experience; yet it concerns noteworthy characteristics of the individual's field of experience which seem to demand explanation. The problem may be stated as follows: Why do physical things appear in the perceptual field in the order, spatial and temporal, in which they do appear? Both science and common sense are convinced that this order is not haphazard, that it has a basis in an environment independent of the individual. So far as these standpoints are realistic, they naturally assign this control-basis to nature as a system of physical things which stimulate the organism and thus occasion the orderly succession of experiences. But natural realism has broken down, and this explanation itself requires critical examination. What it witnesses to is, however, clear. There is a spatial and temporal uniformity in the perceptual

field which the human mind is not satisfied to accept simply as given fact which demands no explanation. Unable to account for it in terms of its own creativeness, and unwilling to leave it unexplained when Natural Realism breaks down under the stress of unavoidable conflicts, the mind resorts first to the distinction between appearance and reality and then to the contrast between the physical world as it is in itself and the percepts which it occasions in percipient agents. In both stages it holds to a ground, and to one not entirely alien to the objects present in consciousness. It should be noted that the previous problems and the present problem all work in the same direction. They thus reënforce each other and make the demand for a realistic ground to explain our physical-world experience almost irresistible. It is noteworthy that Berkeley accepts without question this demand for a ground, while he refuses to acknowledge that we can gain valid information about it by means of reflection on our immediate experience; yet only after he has disposed of this possibility to his own satisfaction, does he feel assured of his own spiritualistic construction.

I wish now to take up for consideration the relative independence of the last two realistic motives. Many thinkers of the present day are so obsessed by the social atmosphere in which our experience is formed that they are inclined to do scant justice to motives within the individual's experience. I have heard philosophers gravely assert that a child's experience of the physical world is secondary to, and somehow mediated by, his relations to other selves. Such an assertion seems to me absurd and not likely to be made by one who has observed children closely. A very young child, only two or three months old, gazes with interest upon the passing show of nature when he is taken for a walk. To him persons are but other things; but because of his inherited instincts and the part persons play in the satisfaction of his wants, he finds persons more interesting. Let us admit, then, to the full, the assistance rendered by interpersonal intercourse in the development of consciousness of the self and in the solidifying and extending of the physical world; it still does not follow that things, so far as they are objective, are simply transsubjective.

The truer analysis regards transsubjectivity as merely a deepening and intensifying of that objectivity which motives in the individual's experience are themselves able to bring to birth. Communication and coöperation contain, as it were, harmoniously superposable motives which continue this objectivity and orientate it in relation to all. This further development consists more in a change of perspective than in a change in content, and might be likened to the effect produced by a stereoscope. We are able to stand back from nature and view it impersonally. The transsubjective object is, however, only the perceptual object which has reached the adult stage under the ever more effective tutelage of interpersonal relations; there is and can be no temporal and no existential separation. If this analysis be true, it is erroneous to account for the independence of the transsubjective object on the ground that it is based on a fallacy. Ordinary thought, says Ward, does not raise Kant's question: For what consciousness is the transsubjective object an object? "It proceeds, rather, in this wise. Regarding *the* sun as independent of *L* and *M* and *N*, *severally*, it concludes that it is and remains an object independently of them all *collectively*. Such reasoning is about on a par with maintaining that the British House of Commons is an estate of the realm independent of each individual member, and that, therefore, it might be addressed, from the throne, for instance, even if there were no members." We have seen reason to believe that Ward is wrong in his analysis. The independence of the transsubjective object but develops and continues that which the more distinctly perceptual object or thing already possesses. What the individual sees from the first is, implicitly at least, *the* sun. Moreover, it is very doubtful whether the conditions for a fallacy of composition are to be found in this problem. Is the transsubjective object thought of as related to individuals in their collective aspect? The dualism of common sense is not produced by social reference, but merely strengthened thereby.

It is so easy to adopt an extreme position and so difficult to do impartial justice to contemporaneous yet logically separable factors that the attitude taken by those thinkers who have rediscovered the social moment in our physical-world

experience is natural and excusable. Psychology and logic were, until lately, far too individualistic. The political, ethical, and economic individualisms of the eighteenth century made their influence felt in these disciplines to a degree little suspected at the time. While it is true that the individual alone judges and the individual alone has experiences,—a statement that our study of the Advance of the Personal has justified,—it is the reverse of the truth to assert that the individual is not fundamentally influenced in these judgments and experiences by interpersonal intercourse. What the thinker must do is to strike a balance between the social and individual factors in the experience of the individual. To do this by comparing a child's field of experience with an adult's, as if the difference could be assigned to the social factor, is, on the face of it, unjust; yet the advocates of the social factor have suggested such a comparison. Thus Royce, one of the pioneers in the rehabilitation of the social, does not deny that the child "while its perceptive consciousness is slowly clearing gets a notion of something that has many important elements in common with what you and I call our external world." But he tends to minimize these elements and the development which might be attained apart from the presence of the social moment. Mingled almost inextricably with this tendency, and partly the cause of it, is the belief that "consciousness of others antedates consciousness of self—or, at least, this is nearer the truth than the reverse order." (*The World and the Individual*, p. 170, second series.)

Consciousness of self and consciousness of others are, however, really correlatives; and certainly consciousness of the external world in some form is as primitive as—probably more primitive than—either. Professor Royce's thesis finally simmers down to this: "while the factor furnished by personal verification by private experience of the facts of perception, plays an unquestionable and very important part in the formation of our general conception of external reality, it is, at least, very probable that the social factor plays a still larger part, not only, as just pointed out, in supplying us with a notion of what individual facts the external world contains, but also in determining our very fundamental notion itself

of what we now mean by externality." (*Philosophical Review*, Vol. III, p. 515.) This element which the social factor adds is what we have called commonness. Along with this goes an increased determinateness due to description and measurement. Granted the validity of this analysis in the main, there still rises in our mind the question: Does the social factor produce a very fundamental change in man's attitude to the physical world? I am strongly inclined to say that it does not, that commonness and determinateness are additional qualifications surrounding the central core of independence, and that this central core of independence is explicable only in terms of motives characteristic of the individual's field of experience. Commonness and determinateness are, as it were, embroidery on the basic distinction within the individual's experience between the physical and the psychical. They furnish *tests* of that which claims to be a *physical object* but are incapable of offering an explanation of the distinction itself. This is, of course, the point at issue, since everyone to-day would admit that the individual's knowledge of the particular objects to be found in the physical world is socially mediated. Our conclusion is, accordingly, that the social factors reënforce and clarify distinctions which must have their origin in characteristics of the individual's experience. To believe otherwise is to forget that society is created by individuals and that these, therefore, must have capacities of an order equal to their task. The motives developed by interpersonal intercourse do not compete with, but, instead, support and harmonize with the native structure of experience.

An example of this support will do to close this discussion of the relative independence of the last two motives, critical of mental pluralism. We have maintained that the distinction between the physical and the psychical and the independence of the individual which is assigned to the former are explicable in terms of the individual's experience. But reflection, working critically within the individual's natural outlook, is forced to develop the additional contrast between the physical object and its appearance to a percipient. Even this does not furnish a resting-place, however; and analysis leads on to the conception that the physical object is possibly only a synthesis

of sensations, ideas, and meanings. But these elements are avowedly personal and cannot be shared, whereas the object is somehow common. In this manner, the social factor comes to the rescue of the physical object and defends it with varying success against the assaults of idealistic motives. The strength of this defense consists largely in the fact that it sets subjective idealism a problem which it, in its turn, is unable to answer. Idealism on the defensive is never as confident and dogmatic as idealism on the offensive. The social factor first confirms the natural realism of the individual and then tenaciously supports it when under attack. But this rôle is altogether different from that assigned to it by Ward, who makes it the creator of dualism.

A fifth problem is closely connected with those which have preceded, yet it has sufficient distinctness to deserve a separate treatment. Natural Realism concedes a permanence to physical things which thing-experiences, to which idealism is forced to reduce them, cannot possess. Now such a view, however it may have arisen, certainly enables us to organize our experience in a way that would otherwise be impossible. Moreover, it empowers us to escape the belief that things are created in such a way as to give us the impression that they are permanent, or, to express it more accurately, that things arise apparently *ex nihilo* in such an order and relation as to give us that impression. It is interesting in this connection to notice that Berkeley felt the force of this demand that things be somehow permanent, and endeavored to satisfy it. "Ideas" have an existence distinct from being perceived by me. (*Three Dialogues*, p. 64, Open Court edition.) Again and again, he emphasizes the fact that ideas are independent of the individual's mind. Yet they must exist in some mind. This finally adequate mind can be no other than God's. ("Sensible things do really exist; and if they really exist, they are necessarily perceived by an infinite mind: therefore there is an infinite mind, or God." *Ibid.*, p. 65.) So far as the individual knower is concerned, the outlook is decidedly realistic. But this attempt to throw a sop to the Cerberus of realism is little more than a confession of weakness; for ideas are not and cannot be the same for distinct individuals. Our study

of the Advance of the Personal has surely demonstrated this beyond the possibility of doubt. Whose idea shall we consider really existent? The suggestion of the difficulty is enough. Ideas are not independent of the selective purposes and past experiences of the individual; and to regard the individual as a passive reflector of the divine ideas is most assuredly to sin against what both logic and psychology have taught us. Hence, there are as many ideas as individuals (be they divine or human) to perceive them. And I see no way of escape from this difficulty that is at all satisfactory for the idealist. To say that our ideas are selections from the single idea in God's mind involves the difficulty which, in a less theological context, we saw confronted M. Bergson. Communication reveals the fact that the differences between the corresponding ideas of percipients are more fundamental than the word "selection" indicates. Ideas can be best understood as functions of many factors working causally together. What, then, becomes of the identity of the idea upon which its permanence and independence of finite minds depend? It is the idea in the divine mind, which alone can be identical and permanent. But we are limited to the sensible existences which present themselves to our senses. It is from their independence of the individual that Berkeley argues to the infinite mind. Thus the ground is taken from under his feet by the Advance of the Personal.

Berkeley raised the question of identity, although he did not see its full significance. Hylas asks (p. 114) whether it does not follow, from the principles advocated by Philonous, "that no two can see the same thing." There is then given a dissertation on identity which cannot be freed from the criticism that it is question-begging. He appeals to the prejudice of common sense. This is playing fast and loose with a vengeance. Again, he assumes that individuals may be "affected in like sort by their senses" and have uniform experiences. In spite of all, he is forced to appeal to an archetype in the infinite mind. Thus the gain of Berkeley over Locke turns out to be minimal. In the place of Locke's acceptance of the scientific view of perception as involving the stimulation of the sense-organs, we have the postulation of the creative activity of an infinite spirit and the further problem of the

relation of the permanent ideas to the Divine Mind and to the sensible objects which we perceive. At the best, the only thing permanent for us is the will of this infinite spirit. Hence, Berkeley does not succeed in giving permanence to things, but only to the cause of things. It is undeniable, therefore, that Berkeley's construction is entirely hypothetical and bears witness to the need for a realistic ground. Its strength is negative rather than positive.

The fifth problem which confronts mental pluralism may be stated as follows: How can the appearance and disappearance of these minds be explained? And let us not forget that, for us, minds do not mean souls or metaphysical entities somehow lying back of consciousness, like hidden springs whose source and nature we cannot know. The word denotes the ever-changing fields of experience whose unity we signify by a "my." These minds recognize their temporal character; they know as certainly as they know anything that they had beginning in time. Memory carries each back to a period when the field of experience was far simpler; and social relations, testimony, and analogy convince the individual that he was born a few years back of this ultimate reach of his memory. Again, we have adequate reason to believe that this stream of consciousness which we call the mind is in danger of ceasing. Shall we admit, then, that these minds have an absolute origin, or shall we agree to accept a pre-existence for them? The empirical facts point toward an absolute beginning of each mind, but accept in mental heredity a realistic basis or ground which underarches each mind and gives it a continuity with minds which have existed in the past. Mental heredity is, however, merely a name for this continuity and does not explain it. Still there can be little doubt that there is such a basic continuity. Without it, history would be meaningless and parentage would lose its deeper implications. On the other hand, such a continuity is not a fact within any one of these minds. Accordingly, mental pluralism has to choose between preëxistence and inexplicable absolute beginnings. But this is to offer it the horns of a dilemma. To choose preëxistence is to deny heredity and the logical relations it involves; to choose absolute beginnings

is to incur the enmity of our reason, which demands a ground for all things. A will-o'-the-wisp world has no uniformity, and in it we might well expect our ancestors to appear and become our pupils. I do not see how mental pluralism as such can escape this dilemma. Thus the fifth problem, also, points to a realistic ground for experience.

Reflection upon the preceding problem cannot fail to carry the attention to one peculiarity of the appearance and disappearance of minds. Always, what we call the individual's body is associated with these events. Biology informs us that the continuity which we posit in the conception of mental heredity can be at least partly assured by referring it to the actual continuity of the child's organism with the organisms of his ancestors. It may be replied that biology can deal only with physical continuities and resemblances. In a certain sense, such an objection has truth on its side. Mental resemblances can be investigated and be found to *accompany* physical resemblances, but a *real connection* between the two cannot be proved by biology. All that such an empirical investigation conducted by biology and by psychology can do, is to suggest a real connection. As we shall see, such a suggestion in this genetic field reënforces a similar one in regard to the unity of mind and body in the individual himself. But we have dealt so far only with the appearance of minds upon the world's stage; their exit, likewise, seems inseparably bound up with the fortunes of the body. Everyone has the general information which leads to this conclusion, and further details can readily be found in the study of insanity and of the pathology of the brain. We may say, then, without risk of contradiction that a deeper study of the last question that we posed to mental pluralism leads to another problem, namely, What is the significance of the distinction between the mind and the body, which grows up inevitably in the individual's experience? What meaning can this distinction possibly have for mental pluralism?

We have already noted the solution which Berkeley offers for this problem. If the brain be considered a substance independent of perception, it is inconceivable, and falls under the condemnation meted out to matter. Hence, the brain

is, for me, only a cluster of sensations or, better yet, of images. But these exist only in my mind; therefore, my brain exists only in my mind and cannot support it or mediate my knowledge of an external world. ("Besides spirits, all that we know or conceive are our own ideas. When, therefore, you say all ideas are occasioned by impressions in the brain, do you conceive this brain or no? If you do, then you talk of ideas imprinted in an idea causing that same idea, which is absurd. If you do not conceive it, you talk unintelligibly, instead of forming a reasonable hypothesis." *Second Dialogue*, p. 61, Open Court edition.) In short, for idealism, the body, like any other physical thing, becomes my idea. Berkeley is eminently logical. But we have also noticed the difficulty into which this reduction of the body to the individual's idea drives him. To explain interpersonal intercourse the body seems essential, and Berkeley practically admits it. In spite of himself, he is obliged to talk of the control which the individual has over the body. But this is obviously absurd if the body is merely an idea, for ideas are not under our control. The consequence is, God must mediate all communication between individuals. Surely a busy God. A new question arises, however. How does God know our thoughts? That we have ideas he presumably knows, since he causes them in us. But our thoughts are, according to Berkeley, under our control. As active, although subordinate, spirits we make plans and build up purposes and peculiar image-complexes. How can God have cognizance of these and communicate them to others? They are, by hypothesis, as independent of his knowledge as the most pronounced realist could desire. It is only their mental character that salves the idealist's conscience. Again, if things exist as ideas in the Divine Mind, must not the body, too, so exist? But this gives it an independence of my spirit; either, then, I am related to God so far as I am related to this archetypal body, or I am not related to it and it is not in any sense *my* body. All this shows how inadequately idealism can deal with the mind-body problem; yet all our empirical knowledge cries out the reality of this problem which asseverates that minds have their roots in a matrix common to all, in a ground which

mental pluralism cannot explain. It will be our task in another chapter to show that the mind-body problem is a real or ontological one; that the individual's body cannot be taken up into his mind.

When these seven problems are held in mind and brought into relation with one another, it is interesting to notice how they focus on the mind-body problem. This fact acquires peculiar point when we bear in mind the *ambiguity* of the body. The body is intimately connected with the mind in the individual's thought of himself, he seems to dwell in it and permeate it, yet it also assumes a marked independence and is undeniably a part of the physical world. Both science and common sense take for granted that the body plays a dominant rôle in intercommunication and is intimately concerned with the rise and disappearance of minds. Furthermore, things seem to have the right to possess the same permanence as the body which is nourished by them. Again, how natural seems the explanation that individuals have corresponding thing-experiences because their bodies are actually under the control of a common environment? We are surprised when we consider these hypotheses by their apparent simplicity and their harmony with the facts and with one another. The functions of the sense-organs, the part played by the tongue and the vocal cords, the facts of birth and death, the order in which experiences come, the correspondence of the experiences of individuals—all are accounted for coherently and simply. But the realization that this connected chain of constructions conflicts in its present form with the apparent reduction of the external world to elements in the field of experience prevents its adoption until it has been reinterpreted. Evidently, all that is needed to make the push of this view of the world irresistible is a satisfactory realistic epistemology and a solution of the mind-body problem in harmony with this epistemology and with empirical facts. Granted these, mental pluralism would rest in the environment which its own insufficiency requires.

CHAPTER VIII

MEDIATE REALISMS

IN THE preceding chapter we reached the decision that mental pluralism suggests problems which it is unable to answer. These problems point unmistakably to a continuous reality in which minds grow and function. Can we gain any insight into the nature of this envioning reality? That still remains to be seen. A realism of some sort has still to clarify and found itself. But at this point we again find competing principles at work. Those realisms which are most strongly influenced by the epistemological theories of idealism, while refusing to accept the compromise offered by absolute idealism, take the form of "stuff idealisms." As a rule, these stuff idealisms establish themselves by means of the principle of analogy. They grant an envioning reality and, rather than admit that it is unknowable, they read it in the light of consciousness. It is most interesting that these realistic idealists are, in the main, psychologists. Realistic idealisms vary all the way from the crudest mind-stuff theories, through the panpsychism of Paulsen, Prince, Strong, and others, to monadism. We might even place in this group that interesting attempt at compromise between immediate realism and idealism to be found in the writings of M. Bergson. But there is another possibility open to realism. May we not hold that our tested data and theories give us knowledge about what deserves to be called a physical world? We have hinted at this mediate epistemological realism more than once in the foregoing pages. Let us see whether we can carry it through and prove it far preferable to the realistic idealisms mentioned above.

When we have once clearly realized that mental pluralism is unable to explain its own existence and characteristics, we are naturally led to ask ourselves whether idealism has not overshoot the mark in its interpretation of the Advance of the Personal. Instead of pointing forward to the principle that nothing can exist which is not content of some mind, did it not

rather undermine a false view of knowledge—that found in immediate realisms? It will be remembered that we examined and denied the idealistic principle that the object known is necessarily inseparable from the knower. We would not even qualify this statement were there not a characteristic ambiguity in the word “knower.” Sometimes we look upon the knower as the subject-self and sometimes as the conscious individual. The question before us is, accordingly, to attain a view of knowledge which satisfies the teaching contained in the Advance of the Personal while looking upon the object known as independent of the knower, *i.e.*, independent of the field of the individual’s experience when the object is other than an element in the field. Let us see whether or not mental pluralism affirms the existence of such knowledge and is thus a secret traitor to idealism.

Closer scrutiny of mental pluralism reveals the fact that it does not carry the idealistic interpretation of the Advance of the Personal into complete application. In other words, it stops short of solipsism. It does so because the facts of life forbid its doing otherwise. Solipsism corresponds, in philosophy, to a test experiment in science. Any principles which involve it are by that very fact disproved. Now, the self which knows can only be *my* self. It follows that other selves are my constructs; but I refuse to draw an idealistic conclusion from this fact and hold that they are nothing else. This refusal means that, in this instance at least, I do not interpret the Advance of the Personal as signifying that because the world is somehow my idea it can be nothing more. Knowledge apparently uses contentual fact as the object of knowledge without always being aware that it is contentual fact in the mind of the knower. Even when this situation is pointed out, knowledge refuses to draw the conclusion which subjective idealism indicates. And, strange to say, while idealism is insistent when the physical world is concerned, it acquiesces in this violation of its foundation when other selves are concerned.

Idealism bases itself on two principles which are frequently confused. The one is formal and rests on a supposed relation between the object known and the knower. We have already

criticised this supposition sufficiently in a preceding chapter. The other principle is empirical and asserts that all objects of thought are mental. We called this the argument from content. It is more widespread than is usually supposed. This principle is supported by Kant's theory of knowledge, in so far as he emphasizes the fact that phenomena are creations of the human understanding; it is appealed to by Berkeley when he reduces "ideas" to sensations; it is acknowledged by the pragmatist when he points out the reconstructions which things undergo in experience. Opponents of the argument usually misunderstand it and call it psychologism. We, on the contrary, welcomed it and demonstrated that it is valid against all forms of immediate realism.

It is obvious upon reflection that two assumptions, closely connected, are taken for granted in this argument. These are (1) that objects must be actually present in the field of experience to be known; and (2) that knowledge of that which is non-mental cannot be mediated by what is mental.

The assumption that knowledge always involves the actual presence to the mind of the object known is a survival of Natural Realism. The Advance of the Personal either destroys it or leads to solipsism. When we come to examine the assumption more closely, we discover that it is founded upon the view that knowledge consists of the presence of an object to the self, whereas it may be the presence of an *idea* of an object instead of the object itself. Since the idea is an object of thought, this confusion easily arises. But we have discussed this more critical view of knowledge in Chapter V.

Now this first principle of idealism is used as a foundation for the second. The argument is as follows: Since objects to be known must be present in the field of experience, they must be mental. All known objects are, therefore, mental and we can possess no knowledge of what is non-mental. If we grant the first principle, the second certainly follows. But we have seen that the first principle involves the obviously false assertion that nothing outside of the individual's mind can be known by him, because only objects which are present in the field of his experience can be present literally to his mind.

Now, because things which common sense assumes are

present to the mind and at the same time non-mental turn out to be mental, it in no wise follows that objects known which are not present to the mind in a literal sense are mental and necessarily so. Such a conclusion cannot be deduced from the facts upon which the idealist relies. To prove the proposition that only existences which are mental can be known requires the premise that objects not present in a literal sense cannot be known; and this premise is a deduction from the principle of subjective idealism. But mental pluralism degenerates into solipsism if the principle of subjective idealism be held. Must not our conclusion be, that the facts do not furnish a basis for the *empirical* principle of idealism (that all objects of knowledge are mental) any more than an examination of knowledge furnishes a foundation for the *formal* principle of idealism? Knowledge as such makes no discrimination between the mental and the non-mental; this distinction is one between the objects of knowledge.

Having come unscathed through the fire of the idealistic principles, knowledge of the non-mental must meet another enemy. It is an assumption of many thinkers that knowledge of the non-mental cannot be mediated by what is mental. Berkeley's attack upon the copy, or resemblance, view of our knowledge of physical objects will occur to the reader. "I answer, an idea can be like nothing but an idea; a colour or figure can be like nothing but another colour or figure. If we look but never so little into our thoughts, we shall find it impossible for us to conceive a likeness except only between our ideas." (*Principles*, sec. 8. See also *Dialogues*, pp. 55 ff.) This copy view of knowledge which Berkeley attacks has often been misunderstood. There is no assertion that images intervene in perception between thing-experiences and the percipient; instead, it is held that "ideas" which are perceived directly are judged by thought to be copies of reals which cannot be apprehended. It is often held that a still more convincing argument against the copy view of knowledge exists in the query: How could we ever get to the real to find out whether it resembled our construct? We can't reach behind our "ideas" and drag out the reality in order to make a comparison. If we could apprehend

the reality, what would be the use of the comparison?

Knowledge would seem to require tests within experience, and similarity between our construct and the object cannot furnish the basis of such an immanent test. Granted that similarity can never be the *test* for scientific knowledge of reality, the question naturally arises whether it should be considered the *ideal* of knowledge. Berkeley, confirmed sensationist that he is, can think of no other ideal, although the ideal appears to him self-contradictory. That which is mental can resemble only that which is mental. We shall try to show that the knowledge of the physical world which science achieves does not imply resemblance as an ideal.

In order to get the idealistic point of view clearly in mind, let us examine another instance of this theory that the non-mental cannot be known by the mental. I take this argument from a characteristic exposition of panpsychism. "But, if mental states are real, in experiencing them we enjoy a sample of what reality is like, and it is at least possible that things-in-themselves resemble this sample, and are accordingly mental in nature. . . . If the only reality of which we have any experience is consciousness, we have no *material* out of which to form the conception of a reality of different nature, and that conception is consequently perfectly groundless and arbitrary." (Strong, *Why the Mind Has a Body*, pp. 287-8; italics mine.¹) The apparent assumption here is that consciousness is a stuff, or material, and that it is impossible to conceive of another material different from it, because we are limited to consciousness. To this I would reply that, in the first place, I do not think that consciousness is a stuff, and, in the second place, knowledge is not limited to, if indeed it concerns itself at all with stuffs. If the knowledge of the physical world that science has gleaned by painstaking investigation is veritably knowledge, it is indeed satisfactory even if it does not inform us about matter as a stuff.

Now there can be no doubt that our knowledge of existences external to our consciousness must be built up on the

¹ Some years ago I pointed out that the essential fallacy in the principle, that the mental cannot know the non-mental, was the assumption that to know a thing was somehow to be it. I am still convinced that the argument advanced by Professor Strong is implicitly based on some such idea.

basis of experience. Hence, our *idea of* an existence and the existence as we think it are both mental. These two objects of attention, the idea *qua* idea and the idea *qua* thing are actually the same construct assigned to different domains and qualified differently as a consequence. The idea as thing is thought of as independent of the mind and as containing possibilities as yet unglimped. If we disregard this difference of position, they are identical. So long as we remain at the level of Natural Realism, idea and thing are both supposed to be given, and the category of resemblance can be applied to them. I can compare my idea of a thing with the thing as it is subsequently experienced. Thus the copy view develops and has its value within the field of the individual's experience. It concerns the correspondence between thing-experiences and our ideas of them. But we must rid ourselves of the copy ideal of knowledge when we pass to science. Images give way to propositions, and we must raise ourselves beyond the level of mere picture-thinking. We know *that* a physical thing has such a ratio to our standard unit, *that* it has such a structure and is capable of functioning in certain definite ways; but we do not attempt to gain a mental copy of the thing (*cf.* Chap. II). When we do so, we are lapsing back into a more subtle form of Natural Realism. It is unfortunate that most forms of mediate realism, so far as they interpret the primary qualities naïvely, fall into this copy view of knowledge.

We may say, then, that resemblance is the common-sense ideal of knowledge, because it concerns itself with relations between objects, the thing, and the idea of it, *within the field of experience*. This primitive ideal is easily carried over to the more critical realm of science and survives there for a long time, as can be seen in Locke's theory of the primary qualities as archetypes of the primary ideas. Nevertheless, it must be relinquished and a new view of knowledge developed. Scientific knowledge deals with the structure, functions, relative sizes, and relations of things, and this information is expressible in judgments, and not in images. The category of resemblance is no longer applicable. To conclude this anticipatory discussion of the nature of knowledge of that which is external to the field of the individual's experience: there

seems to be no adequate reason that idealism can advance against the assumption that the mental can mediate knowledge of the non-mental. Only he who has a primitive idea of scientific knowledge can maintain that Berkeley's argument against it is valid. It is valid against Locke, but that is all. Science makes the claim to have knowledge of the physical world, and, certainly, this garnered knowledge enables us to adjust ourselves to nature; a better test scarcely could be desired.

This long and rather technical examination of the empirical basis of idealism was necessary to prepare the way for an answer to the question: Why is it that idealists are insistent on their supposed principle when a knowledge of *nature* is concerned and not when other *selves* are involved? We have already learned that idealism has so taken its principle as to allow knowledge of the mental when that which is known does not exist in the mind of the knower. We have also discovered that this extension of knowledge cannot be justified on the empirical ground on which it is supposedly based. Knowledge of other minds is not consistent with subjective idealism. There are at least two reasons for this disingenuous attitude on the part of the idealist. The first is, that the knowledge of other selves in some sense and to some degree is so apparent and so susceptible of test by communication that it is folly to deny it; the second, that the idealist has no fault to find with mental existence. And here peeps out the cloven hoof of idealism—the lack of disinterested interest. Idealism as a system has always been in alliance with religion and with a spiritualistic ethics and has been controlled by the purpose to show that the non-mental is unknowable. Consequently, it confuses what it would prove, were its principles correct, with what it desires to prove. Only in this way can I account for the confusion which is so prevalent in idealism between the logical implications of the empirical principle and those which are actually drawn.

Let me also call attention to the fact that it is more than doubtful that the self is mental in the modern sense of that term. The self is not to be identified with the stream of consciousness of any one moment. Yet this is what the

panpsychist seems forced to hold; and I do not see how anyone—Strong, for instance—can avoid this difficulty. The monadist has a far more adequate idea of the self than the panpsychist; but he is confronted, as we shall see, with special difficulties. If the self is non-mental, can the idealist maintain that he knows his self and the selves of others unless he is prepared to admit that the non-mental can be known by means of the mental?

To confirm us in the conclusion we have drawn in regard to the inconsistency of idealism, all that is necessary is an examination of the method usually employed by idealists to prove the existence of other minds. The principle upon which they lay stress is that of analogy. We have already noted its use by Berkeley. The argument is as follows: When I know your mind, it is because I judge that you have thoughts like those which I have. I make certain gestures and speak certain words. An organism similar to *mine* does the same. Therefore I infer by analogy that there are other minds.

But how can I know that *you*, another being, use these gestures and words to convey to me the meanings which I attach to them? How can I know that they are causally connected with another mind for which they possess a corresponding significance? To this it may be replied that these sounds and gestures are connected with a body other than the one to which I connect *my* words and gestures. True; but what does this fact prove? If my body is only my experience, so are the other bodies only my experiences. I admit that my field of experience has peculiarities which suggest other minds, but these other minds are likewise only ideas of mine to which I tend to give a reality equal to that which I give to that idea which I call my mind. But all this takes place in the field of *my* experience which, by hypothesis, I cannot transcend either literally or cognitively. If, then, knowledge involves the actual presence of that which is known, it is impossible to have knowledge of other minds. We may feel sure that there are other minds, but we cannot come into a literal contact with them. It is sometimes said that we *infer* the existence of other minds by analogy. If by "inference" is meant the mental process by means of which the individual comes to the conclusion

that he believes there are other minds, there can be no doubt that inference is at work in this case, although genetic analysis leads us to believe that the thought of other selves is as early as the thought of oneself. If by "inference" is meant a mysterious function which enables the individual to reach out beyond his field of experience and *apprehend* another mind, then we assuredly cannot infer the existence of other minds by analogy. The argument from analogy gives the basis for a hypothesis which everything hastens to confirm, but it does not furnish the ground for a deduction. But I am not at present concerned so much with the grounds for our admitted belief in other minds as with the implications of the belief. I believe not only that there are other minds, but also that I can know them. In this way the "that" goes hand in hand with a "what." Indeed, I do not see how they can be separated. But if they are, subjective idealism is flouted. The very attempt to prove the existence of other minds is a surrender of the limitation of knowledge to the field of the individual's experience. Here again, however, idealism retains its element of validity in so far as its adoption of the argument from analogy bears witness to the mediateness of one's knowledge of other selves. We must never confuse certainty of knowledge with immediacy, *i.e.*, with intuition.¹

This refusal of idealism to draw its logical consequences when it comes to the problem of a knowledge of other selves is significant. I am forced to conclude that solipsism is so contrary to our beliefs, habits, and mental organization, which are thoroughly social, that it cannot gain a foothold. On the other hand, many individuals seem to consent readily to the identification of things with mental constructs which have no cognitive import. It is true that idealisms are usually vague when it comes to the question of the existence of the physical world (note the discussion of Berkeley in the preceding chapter), and can generally be so interpreted as to leave a relative independence to things. Nevertheless, there is a difference in attitude toward the reality of other selves, as compared with things, marked enough to demand explanation.

¹ Obviously, my point is that Berkeley never realized the implication for *knowledge* of our admitted knowledge about other selves. It is this implication which we are trying to work out.

If idealism involves solipsism, mental pluralism of the empirical sort which admits communication and mutual knowledge must involve realism. Let us see whether it will give us a clue to the nature of cognition. Minds, we have seen, do not intersect; active interpretation, subject to error, of the activities of other minds, so far as these affect us, is the sole source of knowledge. We have no right to call this knowledge inadequate or to deny it the name of knowledge simply because it is a construction on our part. That, as we have surely realized by now, results from the prejudices which Natural Realism has made almost second nature to man. The parallelism with the problem of our knowledge of the physical world is not far to seek. In both cases, examination of the real extent of the individual mind leads to a readjustment of the idea of knowledge. If knowledge does not involve the actual presence of the object known, may we not have knowledge of the physical? The only principle which might interpose itself—that knowledge of the physical cannot be mediated by the mental—we have already discussed.

An existence which I know, in this case another mind, is numerically distinct from the mind knowing. My knowledge *qua* knowledge has no relation to the mind of which it holds good. My knowledge is contained in my ideas, and these are personal and cannot be shared. There is, moreover, nothing to warrant the assumption that my ideas, when they are adjudged by me to contain knowledge, must be connected directly and in a unique way with that which they know. What good, indeed, could such a connection do? Granted our analysis of the field of the individual's experience, such a relation must needs be external and irrelevant. Hence, it could not make my idea true. There must be in the mind of him who holds this view some vague spatial reminiscence, some transmuted remnant of Natural Realism, a prejudice that the idea which contains knowledge must be guided to that which it knows. But I do not think much of an idea which does not contain in itself the indication of the object known as part of its meaning. Localization and identification of an object is the *core* around which the rest of my information is built.

What thing I mean can surely not be separated from *what I mean of it*. Yet there are levels in knowledge which make us tend to separate these factors. Knowledge ordinarily works within a classification which it takes for granted. As we shall see later, immediate realism seems to find a foothold in this functional distinction. Once warned that the distinction between a thing meant and the idea of the thing is a functional distinction within the field of experience, we realize that the total idea of the existent contains both. Therefore, to tie one end of a string to the idea and attach the other end to the existent would do no good; it would be like leading a man who is not blind. Besides, who could have the "inside information" sufficient to enable him to hitch together the right idea with the right existent? A little reflection is surely enough to convince one that a unique, external, cognitive relation between an idea in an individual's mind and an existent is both unnecessary and absurd.

Let us return to the explanation of the fact that a cognitive relation between our idea and the existent known is not needed. The localization or identification of the object is, we have said, a fundamental part of the construct which contains our knowledge and which we ordinarily treat as the existent. If I told you that I knew an object but did not know where it was or what some of its relations were or how it could be classed, you would certainly have the right to feel skeptical about my knowledge. Even to state that an object is physical is to assert some knowledge of its relations. An object which is physical is so far classified and localized. And I do not know of any object a knowledge of which does not involve, implicitly or explicitly, this elementary core of knowledge. Without it, we could not *mean* an object. From such general identification as a limit, we pass insensibly to more specific localization wherein the position and relations of an existent are given to the degree required or to the degree possible. The layman can tell you where a star like Sirius is to be found, but his location of it is naturally vague compared with an astronomer's. It is this identification of an object by means of its relations, spatial and temporal, and its classification as in a certain domain that constitutes what is usually called the reference

of the idea or the intent of our knowledge. So far as the purpose is identification, these relations are thought of as external; they give the context of the object in such a way that we can handle it cognitively. We have already noted (Chap. III) how this common reference begins with actual pointing and develops to standardized positions in a conceptual space and time. It is so related to the object of which it is the context, or means of identification, that it can be used to tie down any additional idea to the object intended. Thus intention, or reference, has a socially developed instrument; it involves the correspondence of my means of organizing objects with yours. In this way we make corresponding and controlled selections of objects about which we are thinking. When asked what house I mean when I am describing the interior of a dwelling, I reply, "The house on the corner of Division Street so many blocks west of the Campus," a means of identification supposedly known to the inquirer. If asked what person I am referring to, I reply by giving his name, the place where he lives, and his profession. Some such context must exist before the idea possesses a reference and deserves the name of knowledge.

There is, then, no need for a guide quite external to the individual's experience in order that an idea may be referred to the proper existent. Such reference as knowledge demands is worked out within experience by means of the structure I have just described. In order that another individual may understand the reference which I give to an idea, it is not necessary that he share my space-experience, perceptual or conceptual. That we have already seen is impossible. All that is needed is that there be a tested correspondence between the contexts which we assign to the idea. Now the context is, from its very nature, more general and abstract than the construct which it surrounds and enmeshes or the idea which is assigned to it. Hence, relatively to them, it takes on the character of an *a priori* background more primitive and general than they. To illustrate, spatial relations are so recurrent and so similar that they are early abstracted and generalized. The consequence is the creation of mathematical space as a *menstruum* in which the concrete and varied things of this

complex world of ours rest. The use made of this contrast by the scientist in his description and analysis of space-and-time-filling bodies is too familiar to require explanation. It is for this reason that a spatial context functions best as a means of reference between individuals. It acts like an accepted background or like a recognized and recurrent theme in music. But the same motives hold good for the individual and his thought. Spatial relations increasingly furnish the background in front of which objects move and change in various ways. It is to the credit of Kant that he saw the importance of this distinction; it is really the foundation of his contrast between the *a priori* and the *a posteriori*. It is in time and space that the objective world of phenomena is organized. Unfortunately, he did not approach the question from the genetic side, did not clearly enough distinguish between perceptual and conceptual space and time, and did not connect it, as we have attempted to connect it, with the problem of reference.

When we come back from this apparent excursus to the question of other minds, we find that our knowledge of other minds involves the problem of reference. In history, for instance, we are forced to use space and time as means to the selection of one individual from others. The same is true for our references to contemporaries, although here again the additional aid of proper names comes to our assistance. But an examination of the knowledge possessed by one mind of another bears out the conclusion that no cognitive relation between them is required. So far as such knowledge is concerned a pluralism is quite thinkable. But epistemological idealism can never admit a pluralism; it seems condemned to move between a monism based on the impossibility of separating the known from the knower, and a solipsism which asserts that knowledge is confined to the contents of the individual's mind. It follows, then, that mental pluralism involves an epistemological realism. We do know other minds, although we are not able to possess their contents. This fact has been frequently recognized in a vague way of late, although its exact significance has not been appreciated. Other minds, it is said, are ejects. And a discussion of ejects and of introjection

may make the cognitive side of mental pluralism clearer.

Probably two thinkers, Clifford and Avenarius, have done more to bring the problem of the nature of knowledge of other minds to the front than has the traditional philosophy of either Great Britain or Germany. Philosophy was too easily satisfied with impersonal logical motives or with the argument from analogy. Clifford's statement of what he means by the term "eject" is interesting. "When I come to the conclusion that you are conscious and that there are objects in your consciousness similar to those in mine, I am not inferring any actual or possible feelings of my own, but your feelings, which cannot by any possibility become objects in my consciousness. . . . I . . . call these inferred existences ejects to distinguish them from objects." We have already noted the logical difficulties which confront any such inference if based on analogy. Inference works within the distinctions of knowledge and is not a function which lifts the mind beyond its natural limitations. That I do contrast my mind with your mind and connect these minds with numerically distinct organisms within the field of my experience is undoubted. The "you" whom I conclude to be conscious is evidently the individual composed of mind and body towards which I react and with whom I communicate. But this body is my experience; to assign it a consciousness like my own while it is so considered is absurd. Hence, to make such an assignment, I must take a realistic attitude toward this body which I call yours. Now this is what is done from the start. Ejection goes hand in hand with Natural Realism and can be understood only when considered from the genetic standpoint. Thus it is within the world as common sense sees it that all these realistic meanings develop. Ejection is no more mysterious than Natural Realism. Why is it, then, that ejects appear to challenge our ordinary outlook more than physical things do? The reason is that the unsatisfactoriness of Natural Realism reveals itself sooner and clearer in the case of other minds than in the case of physical things; yet idealism does not offer itself as a palliative. To reduce things to *our* ideas seems within the limits of possibility, but to reduce other selves to *my* ideas is frowned upon as inadmissible. Other minds are

so bound up with our knowledge of our own that the denial of them is felt to be a flight from the problem rather than its solution. Yet the fact that I cannot have another's experiences in a literal sense is also forced upon me as the only possible interpretation of undeniable facts. Other minds are not perceived and, therefore, their existence and entire separateness is not blurred by a misunderstanding of perception as is the case with physical existents. Natural Realism takes it for granted that things are present in perception. It is almost impossible to take this naïve position in reference to other minds. Clifford arrived at the stage where he realized this, but he still assumed that physical things are actually "objects in consciousness."

We have hinted again and again that perception is not knowledge, although it gives the basis of knowledge. I mean that objects are not literally present to the knower as they appear to be in perception. Better yet, objects are present, but they are not the objects we take them to be. They are thing-experiences and not physical existents. When this blurring is overcome and perception is properly adjusted to knowledge, there still remain differences in our way of regarding physical things and other minds. The content and qualifications of other minds are constructed in terms of our contents as such. When I assert that another has experiences like those which I have, I transfer to him a tang of immediacy and sense of control as well as meanings and percepts. In this way, knowledge approaches nearest to that original ideal, an intuition. I read other minds in terms of my own mind, but I refuse more and more to read physical things in terms of my mind. Sympathy and *Einfühlung* are strengthened as social ideals, while animism is rejected by science. We may call this sympathy which depends upon penetrative and subtle interpretation and broad interests a "mediate" intuition. I call it a *mediate* intuition to distinguish it from the mystical views of intuition again coming into vogue owing to a misunderstanding of Natural Realism.

But it is a mistake, encouraged by psychology of the introspective type, to suppose that knowledge of other selves is characteristically the construction of their mental contents

in terms of our own. Ordinarily, we treat people as complex objects which are able to perform certain acts of which animals and inorganic things are incapable. When I think of Plato, for instance, I think of him as a genius in the field of philosophy, as the author of the *Republic*, as a sympathizer with the Spartan ideals, and so on. I have his work and type of mind before me as objects. These give me *knowledge about* Plato. Now the interesting thing is that I can add to this objective construct, which is my knowledge of Plato, an attempt to envisage the inner control of ideas, the surge of feelings and passions which I believe accompanied and found expression in the behavior which history describes. The result passes insensibly beyond knowledge as such and seeks to achieve a veritable intuition of another's field of experience. I strive to penetrate into the ideals and prejudices and values of the Athenian of long ago and at times hope to realize the attachment of these stable elements to the swirling current of the man's inner life. But I fall back disillusioned from such moods of constructive *Einfühlung*; the chasm to bridge is too great. It makes me realize, however, that all insight is based on the experience of the individual knowing, which flows into the mold set by the behavior of the person known. Thus Natural Realism, once scotched for the perceptual realm, is soon killed for the ejective realm. Eject and object form an indissoluble unity when our construction of another person reaches its highest level and both are seen to be knowledge-of, and not intuition.

It is the inability to keep these two sides together that leads to panpsychism and to materialism, respectively. The panpsychist makes a thing-in-itself out of the ejective feature and rejects the objective side as not being knowledge. The materialist accepts the objective side and rejects the control side, linked as it is with a mental field not shareable by others. A sane, realistic outlook admits both and sees how they go together in our knowledge of reality.

In order to clear up the nature of ejection, we must briefly consider introjection, a term we owe to Avenarius. Such an examination is peculiarly necessary, because a refutation of dualism has been based upon it. I may remark that certain thinkers confuse any mediate, epistemological realism with

dualism in the derogatory metaphysical sense of that term, although they have not shown that the connection is inevitable. "The essence of introjection," writes Ward, "consists in applying to the immediate experience of my fellow creatures conceptions which have no counterpart in my own." (I see the sun, but I assume that another has in him a percept of the sun.) "Thus while my environment is an external world for me, his experience is for me an internal world in him. This is introjection. And since I am led to apply this conception to all my fellow-men and it is applied by all my fellow-men to me, I naturally apply it also to myself." (Ward, *Naturalism and Agnosticism*, Vol. II, p. 172.) This interpretation of introjection seems to me founded on a misunderstanding of our natural outlook on the world and the motives which gradually modify that outlook. At first, I assume that another person perceives the external world much as I do. For him, also, perception is an event in which the common, independent physical world reveals itself. It is not until certain motives in my own experience suggest to me that I perceive the appearances of things and not the things themselves that I carry the same distinction over to another's experience. In our criticism of Natural Realism, we had no need to appeal to introjection; the contrast between percepts and physical things was forced upon us by the facts. If this be the case, introjection is only a social motive which strengthens and clarifies tendencies which are already existent in the experience of the individual as such. The Advance of the Personal leads to the realization that the field of the individual's experience is mental and that the terms "private" and "common" are meanings which have developed within it to qualify functionally separable spheres. The result is the empirical mental pluralism upon which we have laid so much stress. In order to emphasize the fact that this standpoint is not that of psychology, we called the objective elements of the field thing-experiences instead of percepts.

I am fully persuaded that Avenarius has led thinkers astray. It is impossible to remain at the naïvely realistic outlook, and it is possible to go beyond it without falling into errors and contradictions. I am confident that the method I have adopted accomplishes this result. But the point is

so important for a mediate, epistemological realism that I wish to consider it at more length.

In his admirable study of the logical character of psychology, Mr. Taylor falls back on the world as common sense experiences it. Unfortunately, he over-simplifies the direct experience of actual life. It is true that we, as sentient and purposive beings, react directly to our environment; but we also nourish a private, inner world which fronts this external, common world. Thus it is not true that "So long as I am concerned only with the analysis of my own experience, there is nothing to suggest the distinction between a physical and a psychical aspect of existence." (*Elements of Metaphysics*, p. 298.) To support this denial I must again call attention to the analysis in the first few chapters. But this assumption made by Avenarius, Ward, and Taylor is the primary fallacy of their whole argument. They hold that all tendencies to dualism come through a misinterpretation of the social element; I hold that the social element merely emphasizes distinctions already present. The interesting thing is that Taylor so lucidly states the motives which lead us to mental pluralism and does not enter a caveat except where psychology substitutes images and ideas for thing-experiences qualified as common. With his criticism of the standpoint of psychology I would in large measure agree. It is a special science and as such has its point of view which cannot be regarded as valid for epistemology. When we come to treat the mind-body problem, this fact will be seen to be of tremendous significance. But introjection, when properly carried on under the control of philosophy, results in the empirical mental pluralism which we have stressed. The field of the individual's experience, with its distinctions and meanings, is the foundation of epistemology.

If the foregoing interpretation of ejection and of introjection be valid, the nature of knowledge of other minds is clear. At no point did we feel the necessity to assume either an actual penetration of other minds or a unique cognitive relation which would guarantee the reference. It follows that mental pluralism involves a mediate, epistemological realism and thus contains a clue to the nature of knowledge of that

which is not in the field of the individual's experience. To be, in the case of other minds, is not to be known. Knowledge does not require the actual presence of the object known. Thus there seems to be no good reason to suppose that being can be defined by its relation to knowing. Being, it would seem, is independent of knowing, which is a transient event earnestly disclaiming any grip on being. In truth, I have no patience with the dogmatic purblindness of idealism on its epistemological side. Its only excuse is the recalcitrant naïveté of immediate realisms.

When we once admit the distinction between being and knowledge, we recognize that these are meanings which have developed within experience. Up to the present we have concerned ourselves mainly with knowledge. We shall now investigate the significance of being. We shall see that, in a very true sense, everything can be said to exist. But not everything exists in the realm in which it first lays claim to existence; if it did, there could be no negative judgments. The best way to approach the question of being is to study it at the different levels which we have already examined. At the level of Natural Realism, that thing exists or has being with which we must reckon. The physical world has being because we must react towards it. Thus being involved primarily qualification by our responses as active creatures seeking self-preservation. It is evident that we, as individuals, are involved in this semi-biological derivation of the resonant reality-feeling which surrounds that which we admit to be existent. Existences are as real as ourselves. It is we who respond; it is they to which we respond. It must be remembered that, at this level, man assumes that he can perceive these objects to which he assigns existence and that such assignment is essentially immediate and not reflective. The individual is felt to be one among many which are as real as he feels himself to be. It is upon this as a background that philosophy must build in its study of being. Philosophy does not so much create meanings as determine how they should be applied in order to escape contradictions.

With this analysis of being in mind, let us study other attempts to define being. Passing over Berkeley's view as

now discredited, we find another idealistic phrase which is becoming popular. If being cannot be limited to being perceived, then, it is suggested, it must be identified with perceiving. To use the scholastic Latin, *esse est percipere*. Such a definition was already implicit in Berkeley's conception of the self. The self is that which perceives, thinks, wills, and performs divers operations. In the first place, we saw good reason to doubt the existence of such a substantive self as that which Berkeley had in mind. His psychology had in it too strong an infusion of Rational Psychology with its substantive entities and acts. And, in the next place, to perceive involves something which is perceived. If the "*esse*" of the latter is separable from the act of which it is an object, there are two kinds of being, and realism remains possible. But, as a matter of fact, this attempt to define being by reference to an operation of the self does not have its roots in the structure of experience. The individual recognizes that he is only one thing among others; to these, as to himself, he can take either a theoretical or a practical attitude.

What, then, can the phrase "to be is to perceive" mean? It is evidently worded as an antithesis to the principle enunciated by Berkeley. Its contrast-significance consists in the relinquishment of the belief that existence can be stated adequately in terms of perception; it implies the abandonment of the attempt to define being on the basis of epistemological dependence. It is a withdrawal into the supposed citadel of the self as something assured. It is a metaphysical definition of being, and not an epistemological one. But what right have we to say that only that which perceives is? How does the idealist come to know that being is inseparably bound up with perceiving? As soon as we give up epistemological idealism, we must admit that we know many things. What principle enables us to assert that these things must be experiencers? or, to put it as fairly as possible for idealism, How do we know that reality must be "psychical matter of fact"?

I have already paid my respects to this view (Chap. V). It is founded on the argument from content, advanced by Mr. Bradley and seconded by Mr. Taylor. (*Cf. Elements of*

Metaphysics, p. 23.) These thinkers challenge an opponent to perform the experiment of thinking of anything whatever as real and then explaining what he means by its reality. Let us glance at Mr. Taylor's argument. What is the difference between the real and the imagined hundred dollars in Kant's famous case? They have the same qualities as contents. The difference lies in the fact that the real dollars may be the objects of direct perception, while the imaginary dollars cannot be. "It is in this connection with immediate psychical fact that the reality of the real coins lies." Really I do not understand this. Are not the imaginary dollars objects as directly connected with immediate psychical fact as are the real dollars. Are they not more indissolubly connected than the real dollars? Perception is here thought of as merely a test of the real dollars. If they are real and not merely imaginary, they can be perceived. Berkeley pointed out that the distinction between images and things, or—to use James's contrast—thoughts and things, is one within experience. This signifies that existence is a meaning which has grown up in our minds. But the realist would admit this conclusion. He claims, however, that existence does not *mean* connection with immediate psychical fact. Imaginary dollars do not exist except as ideas, *i.e.*, objects of thought qualified as merely mental; real dollars are thought of as existing outside of the mind. We have pointed out the fact that this meaning is not contradicted by the argument from content, because both percept and knowledge are within the field of the individual's experience.

In conclusion, let us gather together the more important principles of which our investigations in this chapter have assured us. These may be enumerated as follows: Subjective idealism plays fast and loose with its principles and avoids solipsism only by its one-sided application of its theory of knowledge. The idealist is more concerned to prove that the non-mental cannot be known by the mental than that other minds cannot be known, whereas he really proves that objects outside of the mind of the individual cannot be literally apprehended. The truth to which subjective idealism has blindly borne witness against immediate realism is that the

world must somehow control the development of a substitute in the individual's mind. To panpsychism we must say that consciousness is real and not phenomenal but that it is not the whole of reality. In other words, the mind-body problem still remains to be solved. So far as panpsychism is built up on the principles of idealism, we must refuse to accept its epistemological foundation. Both Ward and Strong obviously erect their metaphysical construction upon this false foundation. Remove it, and the whole edifice comes tumbling to the ground. Furthermore, consciousness does not seem to be a stuff from which a persistent world can be made.

But our work has been destructive only in appearance. The criticism we have been engaged in has welcomed the essential element of truth in each of these positions which we have been compelled to reject. The possibility of explaining these truths by means of a mediate or non-presentative epistemological realism has stood out ever more clearly. It is to the completion of this task that the remainder of the book will be devoted.

CHAPTER IX

IS CONSCIOUSNESS ALIEN TO THE PHYSICAL?

IT IS beyond question the common belief to-day that the physical world is alien to consciousness. Scientists take this alienness for granted as a position essentially self-evident and not likely to be disputed by anyone who has clear ideas on the subject; philosophers in the main agree with the scientists, although they are apt to qualify their agreement with the assertion that the physical world is merely phenomenal. By this qualification, they leave open a way of escape from the dualism which the admission of the alienness of consciousness to the physical implies.) Thus it is assumed that nature, so long as it is regarded as physical, is void of sentiency and can, under no conditions, develop it. In this belief is founded the mind-body dualism which has been such a thorn in the side of naturalism and which has caused so much discomfort to psychology and to physiology. (Mind and matter are looked upon as incompatibles, severely distinct from each other and unable to flow together and form one plastic reality. Consciousness is, as it were, homeless in a universe from which it is inseparable.) Such is the view that has slowly formulated itself under the pressure of various motives, chief among which is the conception of nature urged by mechanical rationalism.

But this dualism, which seems so natural to the thinker of the present, did not always exist. Nature did not seem from the first so thin, transparent, and alien. It took the Greeks some time and effort to realize the difference between causal activity and sense-perception. This fact means that for them sense-perception was immersed in the general activities of nature. Empedocles, in his doctrine of like perceived by like, made perception a property of the elements dependent on a relation between them. A similar hylo-psychism is characteristic of the outlook of Heracleitus. "Heracleitus, also, says the soul is the first principle, since it is fiery vapor from which everything else is derived."

(Aristotle, *De Anima*, 405a.) Even the view of Democritus, the first systematic materialist of whom we have detailed information, is qualified by the acceptance of consciousness as a natural feature of the cosmos. We must bear in mind the fact that the materialism of ancient philosophy had a context and toning that distinguishes it from the materialism of modern times. The supposed gulf that separates sentiency and matter was not realized; consciousness had not, as it were, crystalized out from the physical. Even Aristotle's doctrine of sensation and of the passive reason may be considered to have a materialistic aspect; all depends upon the interpretation which one gives to the relation of form to the potential matter. The soul is so knit with the body that it perishes with it. Strato realized this materialistic moment in Aristotelianism and sought to release it by means of a criticism of the doctrine of pure form, a survival of the Platonic reification of universals. Plotinus, the most spiritualistic of ancient thinkers, did not assume the existence of a hard-and-fast line between the Intelligible World and matter. Matter does not exist independently of the One; it is the lower limit of emanation, the field of exhaustion,¹ where being passes into non-being. We may conclude that the mind-body dualism did not present itself in the same terms to the ancients as it does to the moderns. Why, then, has modern thought so definitely read consciousness out of nature? This problem has far-reaching possibilities in the way of a clarification of the presuppositions of our modern outlook.

It is customary to begin the examination of the question with a statement of the position of Descartes, not because he originated the main features of the outlook, but because he formulated them so clearly. Descartes, as is well known, assumed the existence of two spheres, or types, of reality in our world, *viz.*, extension and thought. This dualism was the expression of the science of his epoch, with its emphasis upon extension and motion. These concepts had gradually become clear through their ability to organize the facts of science. For this reason they seemed to illuminate nature and render it transparent. The process of despiritualizing nature had

¹ It is interesting to compare Bergson and Plotinus on this point

been begun by Kepler in his later years and had been carried on with increasing success by the physicists. Mathematics, allied with the mechanical theory, justified itself to such an extent that thinkers became blind to the complexity of nature. That this blindness was inevitable, we realize when we consider the helplessness of the preceding period. Moreover, it was probably helpful so far as it gave courage; but it led to an assurance in regard to the structure and essence of the physical which we should not emulate. We may say, then, that Descartes excluded consciousness from the physical by his very conception of the essence of the physical.

Mathematical rationalism harmonized so beautifully with the kinetic theory of the physical processes that they united, as it were, defensively and offensively in the scientific movements of the seventeenth and eighteenth centuries. They carried along, as a matter of implication, the Cartesian theory of two substances alien to one another. The more dynamic outlook of the Newtonian physics demanded no essential modification of this presupposition. It also, as is evident in Locke, was dualistic. Let us indicate by an example the import of such a dualism.

Physiologists frequently remark that, were the brain magnified many thousands of times so that even the molecular movements were visible, it would be impossible to perceive consciousness there. To this the obvious reply is that we can perceive only our percepts. We have here a typical argument in a circle. The magnifying of the brain could not change its constitution. Once exclude consciousness from your conception of physical bodies, and such a process as magnification cannot restore it. It produces merely a quantitative change, not a new source of insight. We have pointed out that the primary question is: What sort of knowledge can we obtain of the physical world by means of the senses?

So long as mechanical rationalism dominated thought, dualism was inevitable. How, indeed, could consciousness have any meaning in a nature consisting of extended substances in motion? It could be put in externally by the imagination, but it could not be thought into it. This conceptual exclusion is the logic of what is called epiphenomenalism,

a position which makes consciousness a shadow of the physical. We deal with a metaphor, the work of the imagination, and not with a harmonious conceptual system.

But there has been a distinct reaction against mechanical rationalism on the part of science. For Kant there was only one science of nature; to-day many sciences are becoming relatively autonomous and trusting in experience to justify them. While mathematics functions in all of them so far as measurements are involved, this does not mean that its method of forming concepts is accepted as the only valid method. Nature is seen to be far more complex and plastic than was supposed. Hence, tendencies to break away from a dead-level view of nature and of causality are manifesting themselves. The old frames are being adjudged inadequate. Evolution is at last being taken seriously. In short, the concepts of extension and motion no longer light up the whole of nature as they were once thought to do.

On the general philosophical side, the Cartesian rationalism has likewise fared badly. The epistemological difficulties it must face have always militated against it in the eyes of philosophers. Seldom, however, have the criticisms been supported by satisfactory constructive suggestions. We shall attempt to offer such suggestions on the basis of the critical realism we have tried to establish. If critical realism enables us to construct a view of the physical world which agrees with the results of science and yet solves the mind-body problem in a naturalistic way, this achievement should be of the nature of a supplementary proof of its correctness.

Science gives us knowledge about the physical world, but this knowledge is not an intuition of the stuff or substance of the world. The conceptual rationalism of Descartes, upon which the two-substance theory was founded, assumed that the mind had an intuition of the veritable essence of the physical world. Those who have followed my argument thus far will realize that this position is a rationalistic refinement upon Natural Realism, for which the thing itself is present to the mind to inspect. Instead of trying to refine upon this outlook in order to obtain a more adequate vision of matter, we advocated a right-about-face and a relinquishment of the ideal. Knowledge,

as we obtain it in science, is not an intuition of the substance or stuff of nature, but a knowledge of the relative proportions, structure, relations, and functions of things. Space, either as perceived or conceived, is not the substance of the physical. In brief, we must know what sort of knowledge we obtain about nature before we come to the hasty conclusion that its essence excludes consciousness. When we refuse to believe that nature is reproduced in knowledge so that we have a penetrative insight into its very stuff, must we not likewise hesitate to accept the dualism based on a false theory of the knowledge science obtains?

We know *that* things are extended, *that* they have a structure, *that* they are in active relations with one another, *that* they can function in certain ways. Such knowledge is by no means to be despised. It must not, however, be misinterpreted. *It does not mean that we know the qualities of a hidden substance.* This Lockian interpretation, which goes back to Greek philosophy, reflects a false point of view. When we say that things are actually extended, we do not mean that space as conceived by the mathematician is a quality of things. The distinction between a thing and its qualities grows up on the epistemological level of Natural Realism, with its intuitional view of knowledge, and has no place for critical realism. Hence, I do not hold that in science we gain knowledge of primary qualities of the physical world. Things move and we can measure the relative rate of motion, but motion is not a quality of a substance. Things exclude one another dynamically, but impenetrability is not a quality in the sense of a passive possession of an underlying substance. As Berkeley rightly pointed out, the word "possession" in such a connection is a mere metaphor. Thus I can accept the criticism which Berkeley passed upon the Lockian conception of the physical world, and still be a realist.

We have laid this much stress upon the implications of our own theory of knowledge because its import is fundamental. Even such a critic of the purely mathematical view of the world as M. Bergson still looks upon knowledge as primarily an intuition. Both his theory of perception and his theory of knowledge are different from those which we have advanced.

When we come to a detailed examination of the mind-body problem this difference will be seen to have its effect. Let us now look at some of the other motives which have led to the belief that consciousness is not native to the physical world.

The behavior of things, it is asserted, does not demand for its explanation the existence of consciousness in them as an effective agent. Hence, we do not need to assume its presence, since the principle of economy rules that we should not multiply entities beyond necessity.

We can reply that the behavior of men and of certain animals seems to require the efficacy of consciousness for their explanation; that this fact relieves us of the burden of proof and throws it on the shoulders of the advocates of the purely mechanical view. If a non-contradictory conception of nature with consciousness in it can be achieved, the naturalness is with such a conception. Again, the strictly mechanical theory has not succeeded in explaining the development and activities of organisms and, therefore, has not earned the right to sole possession. The human organism is obviously controlled by plans and memories, and there is no good reason to deny that something similar may hold of organisms less highly developed. Recent experiments in comparative psychology point most strongly to such a conclusion.

A clear-sighted consideration of the argument from behavior is advantageous because it forces us to remark the various grades of organization and of conduct in things. Seeing this, it would be unscientific to assume that the same grade of consciousness and of mental control is everywhere present in nature, or that any consciousness is necessarily existent in the lower levels of nature. We shall be compelled to face the question of newness in evolution in this connection. It is one of the many weaknesses of panpsychism that it cannot admit that consciousness may be something relatively new in nature which dates from a comparatively high level of evolutionary development. But a true empiricism is not forced to advance beyond its data in a deductive fashion. The fault with much of past science and with much of past philosophy has been their dialectic character. They have been ruled by sharp antitheses, such as, mechanical and teleological, life and

lifeless, consciousness and unconsciousness. As evolution is taken seriously, it will modify the logic of both philosophy and science. Knowledge of nature is no longer to be gleaned by reflection on those aspects of nature which the abstracter sciences are occupied with to the exclusion of the more concrete sciences.

But we must obtain clear ideas of the nature of the usual contrasts between the physical and the psychical in order that they may not lead us astray.

We shall take it for granted that we know what objects are physical. The denotation of the term, at least, should be clear. Those objects of whose existence, structure, and relations we learn through the sense-organs are called physical. Our own bodies are of course included. Much of our effort has concerned itself with the problem of what we should mean by *knowledge about* these objects and what the nature and extent of such knowledge is.

Psychical objects, on the other hand, are more various. They do not possess that fundamental continuity which science has shown to be such a marked characteristic of the physical world. We may say that psychical objects are of two main classes: First come those which have claimed to be physical and whose claim has been denied; second, those which are not physical and make no claim to be. Members of this second class do not demand place in the one real space in which physical things are. They do not seek inclusion in nature. A mathematical object, for instance, can be clearly conceived and analyzed, but we do not assign it a place among the things to which we react bodily. What, then, is the nature of this systematic exclusion of psychical objects from the sphere of physical existence? Since it occurs in the mind, it is evidently not a dynamic expulsion from the space which physical things occupy; rather is it the logical separation of classes of objects with different attributes and relations and assigned to different spheres of existence. In other words, psychical objects are not excluded from the physical world as one physical thing excludes another. We have to do here with a logical division, not with an overt, causal expulsion. The laws of behavior of the two realms are different, and they cannot be woven

together into any larger, objective whole. Who can think of a perfect triangle jostling an electron? We are no longer Platonists or Pythagoreans, even though we believe in the applicability of mathematics to scientific data. To take another—and, for our present purpose, important—instance of this disparity, physical objects as existences control our percepts in large measure, whereas psychical objects have no such connection.

There are certain objects, chief among which are the objects of religion, which claim to have dynamic connection with the physical world. These we cannot regard offhand as psychical in the sense here given to that term. It is certainly one of the problems of metaphysics to state what reasons there may be for judging that these objects are other than psychical. Interesting as the question is, this is not the place to consider it.

The logic of psychical objects of the first class, that is, those which are excluded from the physical world, although they have made a claim to presence in it, is somewhat different. However, even they are not mechanically expelled. The country which Jack the Giant-Killer reached when he climbed the bean-stalk is such a pseudo-physical object. It strives towards the physical and seeks vaguely a place somewhere in it, but cannot for obvious reasons make good its claim. It is not excluded because it is psychical; it is psychical because it is excluded. Another example of this class is phlogiston, the substance by means of which the older chemists explained combustion. At one time its claim to be physical was allowed; but, as a result of the investigations of Lavoisier, it was finally adjudged to be merely psychical or a false hypothesis. Now, as soon as these objects are judged to be non-physical, we no longer trouble ourselves with their location. Their space is considered illusory, just as they are; they are not in the one real space because they are unreal. Real space and the physical go together. What this correlation signifies we shall indicate later, although we shall not be able to substantiate our conclusion to the degree we could desire. To do so would require an analysis of the different meanings of space. (The Categories will be treated in full in another volume.) Dream-objects and their space furnish other typical instances of this

exclusion from what we consider the one real space preëmpted by physical things and processes.

But how is this classification of objects into spheres of existence of importance for the problem we have in hand? Suppose it to be granted that psychical objects *qua* objects do not exist in the one real space in which physical things exist, does this fact affect the question which we are considering, that of the presence of consciousness in physical things? It does so, negatively at least. The recognition of the logical classification of objects prevents the confusion of consciousness with psychical objects and the consequences for theory which would follow such a confusion. Consciousness is not an object in the usual sense of that term and, therefore, is not psychical when the psychical is defined as a class of objects distinguished from the class of physical objects. Consequently, there is no logical exclusion of it from nature. It does not claim a position in space as a *thing* in causal relation with other things; nor is it an object with characteristics and relations which make its presence in nature meaningless. We have seen that the assertion that a geometrical figure exists in the physical world is absurd. Such an assertion would be comparable to saying that love weighs so many pounds avoirdupois. But there is surely no need to dwell longer upon the nature and significance of this logical division of objects into classes, although the contrast has not infrequently been taken as a substantiation of the mind-body dualism. Indeed, it has even been taken as a proof that the distinction between the physical and the psychical, in the sense of consciousness, is purely a functional one within experience. It cannot be too often insisted upon that consciousness is not an object in this sense. In the most comprehensive sense of the term, it is an object—that is, it can be thought about; but it is an object *sui generis*, which the capacity to make logical distinctions presupposes.

There is another usage of the term “psychical,” which must be briefly examined. The psychical is the subjective; it consists of those feelings, ideas, and attitudes which are distinguishable from the object in the act of cognition. Its correlate is the objective, and the contrast stressed is that between the

objective, be it physical or psychical, and the other pole of the field of the individual's experience. The objective sphere is the realm of objects known; the subjective, or psychical, sphere is that of the subject-self and its attitudes. Thus the contrast between the two is quite different from that between physical and psychical objects. The subjective *qua* subjective makes no claim to exist in any realm of objects; the duality is not existential, but functional, in character. The independence of the object does not involve the exclusion of one class of objects by another class nor the existential separateness of kinds of being, but the freedom, so to speak, of the object known from the event of its being known. The antithesis is evidently unique and must not be confused with those which presuppose it. The psychical as subjective is, accordingly, not excluded by the physical *qua* physical, but by the physical *qua* objective. The same relation holds for the psychical as objective. Here, again, we meet with no proof that consciousness is alien to the physical.

Yet another application of the term is to be found in recent logic. The psychical represents a phase in consciousness, or the field of the individual's experience, during which the object-stimulus is undergoing interpretation and reconstruction. A conflict with its uncertainty produces the same effect upon consciousness as the addition of a reagent to a test-tube of chemicals in solution. A ferment of activities immediately replaces the previous definite structure. The psychical thus corresponds to a stage in a process and consists of those elements which are held suspended in the process of readjustment and which are not objectified because they have as yet no settled status. Such elements in this stage are, strictly speaking, neither objective nor subjective though they may become either. That which is stressed is the temporal situation of consciousness as a whole; the attitude is pre-cognitive, that is, precedes and conditions that structure of the coexistential dimension of the individual's field of experience in which the subject-self takes an attitude toward the sphere of objects known. Out of such a condition of the field of experience, judgments and decisions grow like crystals from the mother-liquor. Epistemology has much to do with the psychical in

this sense. The recognition that it is a stage in knowledge involves the relinquishment of all forms of immediate realism. What is important for us to note further in the present connection is that the psychical in this temporal, logical sense has no contrast with the physical. While the psychical exists in consciousness as a phase of its process, its contrasts are specific, and not general. It can be understood only as a stage. The lines of force which run through it bind it with that which is to come. The relation of such a psychical to the sphere of objects known cannot be one of logical inclusion or exclusion. Even to ask such a question is to ignore the universe of discourse within which this kind of psychical exists. Evidently, the stream of consciousness swallows up this species of the psychical; not until we know the relation of consciousness to the physical will we know *its* relation.

Finally, there is the meaning of the psychical in which it is identified with the personal. The individual has plans and purposes and values which are distinctly his own. He knows the common objective world, but uses it as a means for the furtherance of his own desires and ideals. The psychical is now the personal reference and control; it is the self as opposed to, yet in a working harmony with, the not-self. The not-self is not necessarily the physical; indeed, it is even more frequently, under the conditions of modern civilization, the social, another person or group of persons, a law, an obnoxious convention. I may seek to adapt *my* plans to the prejudices of the community or to the wishes of a friend. For our present problem the essential to realize is the coequal reality of these objects, be they physical things, wishes, the moral tone of the community, or my own plans. It is apparent that it is meaningless to speak of the exclusion of the personal by the physical. Here our practical knowledge is a challenge to theory. Feelings pulsate, and the face of the world is changed; ideas have hands and feet and force nature to do their will. The self and the not-self, the personal and the not-mine appear no more separated than one physical thing is separated from another. But how can this be? "In the widest possible sense," writes James, "a man's Self is the sum total of all that he can call his; not only his body and his psychic powers, but

his clothes and his house, his wife and children, his ancestors and friends, his reputation and works, his lands and horses, his yacht and bank-account." To be sure, some selves are more modest, but the essential point is brought out by this quotation. It is this: The self is omnivorous and devours the physical equally with the undeniably psychical. The thinker who is seeking an existential line of demarkation between the self and the not-self is baffled by the seemingly capricious allotment of things to the two sides and by the shifting character of the boundary between them. A little reflection will, however, assure us that we have here a distinction which exists only within the field of the individual's experience. There is no reason why the self should not identify itself with various objects which have their representatives in the field. This means that we take possessive attitudes toward things which we experience. Such an attitude does not change the nature of things, but does alter our relations to them and may thus lead to the occurrence of overt actions. What I mean to assert is that the contrast between the self and the not-self is primarily within the individual's experience and has existential import only so far as it is the basis for conduct, personal or social. We may conclude, then, that the distinction does not coincide with that between the physical and consciousness and throws only a negative light upon it.

If consciousness does not consist of psychical objects, nor of the subjective in contrast to the objective, nor of the pre-judgmental flux of experiencing, nor of the personal, what is it? Is there an antithesis, still more primary, which has sometimes been confused with these and therefore misunderstood?

In a preceding chapter we worked out a fairly definite conception of consciousness as identifiable with the whole field of the individual's experience. We saw that the realization of the unity and personal character of the total field is an achievement made by reflection in the face of the protests of meanings such as "common," "independent," and "permanent." Mental in this inclusive sense is a new meaning which has to gain clearness and mastery through a reflective struggle. As soon as this more critical standpoint is taken, the meanings and relations in which the different classes of objects are

set are, like the objects which they qualify, seen to be mental. When this is done, another group of reflective meanings qualify the whole field of experience as such. It is judged to be a process whose parts are considered private and transient. It is this mental process which contains knowledge of existences independent of it. This way of approach to the total field of experiencing guards against the presuppositions of the sciences with which psychology is connected; and, when philosophy uses the term "consciousness" in relation to the mind-body problem, it should mean the mental in this inclusive sense in which it is identifiable with experiencing as a process. Let us keep this definition of consciousness in mind while we examine the contrast between consciousness and the physical which psychology has partly built up and partly accepted. We shall see that the psychologist has never freed himself completely from the assumptions of the other special sciences. The reason for this lies in the genesis of the concept of consciousness as held by the psychologist. Consciousness for him is virtually the inner sphere in contrast to the outer sphere. In the second chapter we studied the development of this contrast-compromise between psychology and the physical sciences. Consciousness, as it should be conceived by the philosopher with an adequate epistemology, escapes many of these implications, although it also has much in common with the consciousness of which the psychologist writes. In other words, the psychologist does not usually have an adequate epistemology, and this lack is reflected into his view of consciousness. We shall try to make this point clear in the next few pages.

Wundt states that psychology "investigates the whole content of experience in its relation to the subject and in its attributes derived directly from the subject." Psychology, according to Judd, has as its subject-matter "the total content of experience in its immediate character." The difficulty which faces these definitions is to determine what is meant by the immediate character of the total content of experience and what the aforesaid peculiar relation to the subject is. If we analyze Wundt's theory, we find that he has in mind the distinction between knowledge, which has an evidently

objective reference, and the flow of the individual's experience, which keeps a personal connection and does not, as it were, crystallize out into objects. "Subjective and mediate knowledge are in this wise correlative ideas, in that, exactly in proportion as certain elements of perception are withdrawn into the subject, the remaining elements are regarded as parts of a mediate knowledge, *i. e.*, a knowledge brought about by a previous logical correction." (*System der Philosophie*, p. 143; quoted from Mead, *The Definition of the Psychological*.) The logic of the distinction between a thing and its perception is illustrative of what Wundt has in mind. (*Cf.* Chap. II, "Natural Realism and Science.") The same material is thrown into two contexts with different principles and presuppositions. The one sphere is temporal and personal and somehow connected with a brain; the other is impersonal, spatial, and common. Feelings and volitions retain their personal character and are now supplemented by percepts. This rather composite realm is then contrasted with the objects of common knowledge as the sphere of consciousness. Psychology only carries on the distinctions of common sense. But a contrast higher up than perception breaks out to challenge the adequacy of the above disjunction. Does not the individual think these mediate objects by means of concepts? These concepts and the processes by which they are elaborated likewise pass to the side of consciousness. Must we not say that psychology, so long as it remains a special science, does not question the existence of objects which are known and with which consciousness as a personal domain is contrasted, and that it does not doubt that consciousness contains knowledge of these objects? We have seen reason to believe that the psychologist is right in this attitude; the field of the individual's experience is personal, and the individual does have knowledge about existences which are not literally present in the field.

Every special science has a view-point by means of which it can be defined. The subject-matter of psychology seems in large measure to be the total field of the individual's experience as this is controlled by mental operations. How does the psychologist approach this material?

There are at least three points of view from which the

psychologist regards the field of experience which he terms consciousness. He may endeavor to analyze the more complex experiences into simpler ones which he treats as structural elements and to find the laws in accordance with which these elements are organized (so long as the ideal is not the construction of a mental chemistry, this work throws light upon the foundations of actual experience); or, he may be interested chiefly in the connection of consciousness with the organism; or, he may endeavor to study the forms of consciousness, their conditions, genesis, and functions. In the first case, we have what is usually called structural psychology. Here the psychologist concerns himself almost entirely with consciousness as a content open to inspection and analysis. In the second case, we have psycho-physics which treats of the correlations between consciousness, the body, and physical stimuli. (We shall see that much of the difficulty which meets psycho-physics is due to the acceptance of the alienness of the psychical to the physical.) Finally, we have what is usually called functional psychology. The functionalist is dissatisfied with the limitation of psychology to consciousness; he wishes to see consciousness in its context. He is haunted with a feeling that consciousness is not objective enough to furnish the basis for a science. Mind, he asserts, is known from man's activities. If we include language we may grant that the mind of another is inferred from his activities; but it is wrong to say that mind is known only in that way. There must be the individual's own immediate experiences from which to start. I do not mean, of course, that the basis of the knowledge of other minds is *consciously* that of our own minds recognized as such. Knowledge about other minds, like knowledge about physical things, does not involve the reflective standpoint we have reached only in epistemology—that each mind is a sort of microcosm. But into this question we need not enter, since it has already been sufficiently discussed. The functionalist is, then, inclined to define psychology as the science of human behavior. It may be stated that this definition is too broad, since ethics, for example, also concerns itself with human behavior. We will leave the question of the mutual relations

of sciences dealing with behavior to the sciences. What interests us at present is the evident desire of the psychologist to connect consciousness with conduct; he wishes to understand human action. (Cf. Pillsbury, *Essentials of Psychology*, Introduction.) He is also certain that he cannot understand it without a knowledge of consciousness, or consciousness without a knowledge of human action. With this we shall find reason to agree most heartily. The problem which we are investigating concerns itself with the "why" of this. If consciousness is alien to the physical, it is hard to comprehend *why* consciousness and conduct apparently imply each other.

When we once realize that the psychologist is a scientist, we are not surprised that he is influenced in his view of the relation of consciousness and the physical by the current theories of science. He is also, undoubtedly, influenced by the traditional dualism between mind and matter considered as two substances. The philosopher must take up the problem as it is left by science and seek to understand the nature of the reality studied by the physical sciences and of that studied by psychology with a view to discovering whether they are existentially separate. We have already done this in large measure and wish to justify our epistemology by the capacity it possesses to solve this age-old problem. Hard as the task is, it is one from which no system should shrink. Indeed, the mind-body problem ought to be used as a touchstone by means of which to judge of the truth of an epistemology.

The states of mind which the psychologist studies are objects in consciousness which do not claim to have existence elsewhere or to give information about anything but the structure of the elements of consciousness, the processes which occur there, and the temporal and coexistential dimensions of consciousness. Fact and theory work together here as in all the sciences; mistakes are made and mistakes are rectified. States of mind are thus psychical data which are studied in order that information may be obtained of the field of the individual's experiencing. That is the reality of which there can be no doubt. Shall we, then, say that the states of mind are phenomena or appearances? Such a question is

evidently nonsense, since the states of mind are objects *in* experience when the self takes a certain attitude called introspection. We must say that states of mind are objects in experience, as real as any other objects in experience, which are used to give us information about the total field of the individual's experience or consciousness. The psychologist in pursuit of this purpose analyzes characteristic group after characteristic group, the sensational, the affective, the conative, the ideational, the subjective attitudes, and so on, and seeks to realize how all these exist together in the actual flow of experiencing. He does not deal with appearances, but with realities. What we must distinguish, however, is the knowledge he thus achieves, from the field of an individual's experiencing as this exists while the individual is extrospective. To conclude, the distinction between appearance and reality is false if applied to psychology.

But we have already come to the same conclusion for the other sciences. Nowhere in science does the contrast between appearance and reality have meaning. The sciences seek to know about things and processes. This knowledge cannot be said, however, to be an appearance of that which is known. Thus the distinction between appearance and reality has no meaning for knowledge and should not be transferred to it from the domain of perception.

What are the characteristics of consciousness as brought out by psychology? There are at least four which are important for our problem. Consciousness is personally toned; it is synthetic; it is not directly conserved; it is not a substance. Let us examine these points briefly.

This first characteristic has been discussed in detail in the chapter on the Advance of the Personal. We saw there that a concept, no matter how impersonal it may seemingly be, is the thought of an individual and is bathed in a tide of feelings, purposes, and desires. Consciousness clings to a personal mooring. It has none of the supposed cosmopolitan traits of energy. Mental pluralism is the law in this domain, and each stream of consciousness has an inner continuity, or unity. It is true that individual minds may break down and dissociation result in the formation of relatively distinct

streams which coexist; but the fields of consciousness which are thus formed in connection with one brain have their own inner unity. The question of multiple personality leads us to the second trait of consciousness.

(Consciousness is essentially synthetic. I mean by this that any experience links itself or tends to link itself with all that is kindred to it. Stimuli within the field come together, and the response which interprets and organizes them must take them all into account. In this way the material from the various senses is organized into thing-experiences, and these again are associated with ideas by means of which they are recognized and interpreted.) Consciousness is alive with convection currents which bring every part to bear upon every other part. Certain of these currents are activities of which we can become conscious and in which we can perceive the work of synthesis. And where ordinary introspection fails, experimental conditions enable us to penetrate beneath what is usually given and see the same synthetic tendencies weaving the elements of the individual's field of consciousness. The study of abnormal minds has, moreover, confirmed the importance of this trait by showing what results when the brain's energy is lessened and all the consciousness in one brain is not drawn into one unified and controlled whole.

Again, the field of the individual's experience is continually changing. The very terms, states, pulses, events, experiences, which are applied to parts of the field show a recognition of the transient nature of consciousness. Here, if anywhere, is the flux so celebrated by Heracleitus. Consciousness is a stream whose waters sink into its bed, yet the stream flows onward; it is a continual birth and also a continual death. In other words, consciousness is not directly conserved in the sense that the same experience presents itself over again in the field. The constructions of the present which we call memories tend to make us forget this fragility and essential mortality of consciousness. We do not always realize that what we assign to the past is a creature of the present. When we say that consciousness is only indirectly conserved, we mean that our present experience would be different were it not for what we experienced in the past; yet the past is not

revived in a literal sense.) The psychologist can explain the perceptions and judgments of an individual only in the light of his previous perceptions and judgments; continuity and growth are the main characteristics of mind. But consciousness cannot be identified with mind for this reason. For it there is an ever-changing now. The mind is like the score of some piece of music which the artist is seeking to perfect; consciousness, like the instrumentation of parts of it from time to time.

The last general characteristic of consciousness is, at first glance, negative rather than positive. It is, as we have said, not a substance. The categories which we apply to states of consciousness—and hence to consciousness as a stream—are negative in form because mankind has been chiefly interested in the physical things which form the environment to which the individual must react rightly in order to live. Man acts before he introspects. This is the reason why Natural Realism is the outlook of common sense. Man is interested primarily in things and does not stop to consider whether they are distinct from his thing-experiences.) Presence is tested by organic reaction; presence to the organism is not differentiated from presence to the subject-self. The self is, as it were, immersed in the body and sees with it as it reacts. "All roots, *i.e.*, all the material elements of language, are expressive of sensuous impressions, and of sensuous impressions only; and as all words, even the most abstract and sublime, are derived from roots, comparative philology fully endorses the conclusions arrived at by Locke." (Max Müller, *Lectures on the Science of Language*, Bk. II, pp., 372, 373; quoted from Höffding, *Outlines*, p. 2.) Thus man worked gradually from the outside inward. This dominance of the concepts formed on things is especially apparent in the philosophy of Kant. Because the categories of the understanding are not applicable to the data of the "inner sense," psychology cannot be a science. It is gradually dawning upon thinkers that the categories which are applicable to the physical world, *as that world is known through the natural sciences*, are not applicable to consciousness, but that this divergence is not a proof that consciousness cannot be known.¹ The material is different and

¹Does not Bergson tend to exalt the psychological categories, thus committing the reverse fallacy?

expresses itself in different terms. It is wrong, therefore, to hold that the one set of categories is truer or more fundamental than the other. Each is relative to its subject-matter. Harmony between them will come only as a result of the recognition of this fact. Our main purpose is to show how such harmony can be attained.

Since man came to understand consciousness after he had analyzed the world of physical things as known by means of perception, the concepts he employed to think it were naturally negative in form. Consciousness is the incorporeal, the unextended, the unsubstantial, the transient, the knower as distinguished from that which is known. Such at least are the vague contrasts which most readily presented themselves. As more became known about it—especially its correspondence with the brain—the more the wonder grew how it could be related to that which was substantial. The most tenuous and intangible of natural phenomena, as these appeared to common sense, were employed as quarries from which to obtain similes for this connection. Consciousness is a lambent flame, a magnetic field, an aura, potential energy. It plays about the brain as St. Elmo's fire about the masts of ships. It is an epiphenomenon like the shadows which accompany an engine in motion. Such attempts at description remind us of the identification by the ancients of mind with the fire-atoms, the subtlest, smoothest, and most penetrating of all atoms. But the employment of images is not enough; it represents the stage of wonder at a necessary differentiation. We must *think* the contrast and know what it involves.

The other characteristics of consciousness which we have examined should help us to give content to this contrast which appears to the scientist and, therefore, to the thinker at first, as a negation which he cannot comprehend. I shall be compelled to use technical terms in order to pass from imagination to thought. Consciousness is clearly a variant, and not a substance. It does not persist through change. Hence, it cannot be identified with the physical as such. It may possibly act *in* things, but not *on* things as one physical existent acts on another. In other words, its action cannot be mechanical.

If it is connected with the brain as a physical existent, it must be thought of as *of* the brain, not as one physical thing is encapsulated in another, but, rather, as a light is in a diamond or a pain in the hand. Here, again, we have only similes; however, these are useful to free the imagination from the tyranny of space-perception so that it will not oppose thought too zealously. Perhaps there is not so much difficulty in thinking consciousness rightly when we make an effort; the danger lies rather in a lapse from the correct view at the critical moment. Many excellent thinkers have shown how easy it is, when the motives are strong, to regard consciousness as a most subtle and intangible material or substance, yet a material notwithstanding its delicacy and tenuousness. Panpsychism is obviously guilty of this application to consciousness of inapplicable categories. It is forced to employ practically the same categories in thinking this mind-stuff as in thinking matter of a supposedly physical nature. The panpsychist does not like the matter which the crude materialist or the more naïve type of scientist presents him with; moreover, he has a theory of knowledge which assures him that he cannot know any existent that is different from consciousness. How easy it is under these circumstances to make a matter out of consciousness. Certain panpsychists are, however, frank enough to acknowledge the difficulties which ensue. "The trouble is, that consciousness appears so very much simpler a thing than the brain-process. When we reflect, the disparity between the two seems immense: the brain-process a concourse of moving molecules inconceivable in its complexity; consciousness a tangle of half-a-dozen feelings, or at most a mosaic of a few hundred." (Strong, *Why the Mind Has a Body*, p. 353.) In short, consciousness and the physical world simply cannot be flatly identified. Such an identification would be the turning of our back upon the distinction which makes a solution possible. It would imply the invalidity of the knowledge which science achieves of the physical world.

A still subtler form of this mistake is to be found in the transmission view of the mind-body relation advocated by James. ("Human Immortality," Ingersoll Lecture; and

A Pluralistic Universe.") Consciousness is thought of as a stuff existent in a vast reservoir independent of the physical world. For some reason it flows thence into certain accredited parts of nature. In these it is integrated and disintegrated and appears finally in the form in which we experience it. In the first place, we must not be led by the term "transmission" into the supposition that we have in this theory a scientific explanation. The word is merely a metaphor. Nor can we understand how the brain gives individuality to this impersonal stuff which sifts through it. Does the brain constitute a mold into which consciousness is poured like bronze into a pattern? Such a mechanical view would of course be rejected with scorn, but it suffices to indicate the difficulties which are implicit in the position. How, again, does a consciousness coming from outside enable us to know the physical world or to assist the organism to adapt itself to its environment? This theory treats consciousness as a substance which can be divided and compounded and thus assigns it a semi-atomic constitution. The interesting feature is, that James wrote an excellent criticism of the mind-stuff hypothesis in *The Principles of Psychology*, yet, in *A Pluralistic Universe*, a later book, he declared for a view essentially open to all the objections he had previously formulated so clearly. The reason for this change of front was his belief that he had to choose between the acceptance of a soul and some form of the mind-stuff theory. Certainly, this would be an ungrateful dilemma; but, like most dilemmas, the disjunction is incomplete. There are other possibilities. Until these are known to be exhausted, we need not resign ourselves to a Hobson's choice. The space which we have at our command will not permit an adequate study of the various forms of the transmission theory. At best, we shall be able to point out some of the difficulties which confront the spiritualism of M. Bergson, who has worked out in more detail the dualistic conception of the relation of mind and body. Our purpose is, however, positive rather than critical; we wish to show the epistemological and logical satisfactoriness of a more flexible naturalism.

We are now in a better position to seek an answer to the question which led to these analyses. Does the physical world

exclude consciousness? We have given the reason why this alienness has been acknowledged by men of science. It was the result of the belief that the essence of the physical is given in the attributes, extension and motion. A quotation from the famous Belfast Address of Tyndall will, I think, make clear what the scientist has in mind when he asserts that consciousness and the brain are incompatible. "We can trace the development of a nervous system and correlate with it the parallel phenomena of sensation and thought. We see with undoubting certainty that they go hand in hand. But we try to soar in a vacuum the moment we seek to comprehend the connection between them . . . There is no *fusion* possible between the two classes of facts—no motor energy in the intellect of man to carry it without logical rupture from the one to the other." What is it that Tyndall has in mind? Evidently a deduction of one class of facts from the other. He desired that the two classes of facts should fuse. But that is obviously nonsense. In both we have knowledge of the real world; it does not follow, however, that one is deducible from the other. All that we have a right to demand is that they be referable to the same reality without logical conflict. In the book entitled *Fragments of Science*, Tyndall makes the same demand that we be able to pass by *reasoning* from the knowledge of the brain acquired by physicists and physiologists to consciousness. "The passage from the physics of the brain to the corresponding facts of consciousness is unthinkable." Has not the problem of the mind-body relation been wrongly put? When we assert that consciousness is not alien to the physical world, we do not mean that feeling can be deduced by thought from a motion or that a motion can become a feeling. Yet the dualism which science thinks it proves is founded on the negation of such absurdities. The demand itself seems strange when we find a chemist asserting that the qualities of chemical substances are not deducible from the quantitative aspects which the chemist measures. (Ostwald, *L'Evolution d'une Science—La Chimie*.) It is extremely interesting to discover that, in spite of his false assumption that consciousness should be deducible from the knowledge of the physical which the sciences founded on external perception acquire,

Tyndall confesses to a belief in the potency of matter to produce every form and quality of life. This confession is evidence that the physicist is not so certain as he at first seemed to be of the inner nature of matter.

Philosophy has been, as a rule, harsh and dictatorial in its treatment of materialism. Modern philosophers have usually felt themselves to be defenders of the ideal against the cold naturalism of science. This is the case with even such a veracious thinker as Lange. (*History of Materialism.*) The primacy of consciousness for theory of knowledge is used as a dialectical instrument to bewilder where it does not convince. The result is that the impartial observer is impressed with the belief that the victory of philosophy over materialism is more a semblance than a reality. Should not philosophy have examined the concept of matter more closely and taken into consideration the motives and reasons which have led so many earnest minds to materialism or semi-materialism? The common error of materialists and anti-materialists alike is to commence their thinking with a stereotyped idea of the physical world. The result has been a series of barren, wrangling controversies in which the idealist has demonstrated amid plaudits "that Materialism, in attempting to deduce the mental from the physical, puts into the conclusion what the very terms have excluded from the premises." (Lewes, *The Physical Basis of Mind*, Preface.) But must these terms be so conceived that the conclusion is excluded from the premises? This is the real point at issue. Philosophers should not consider it their sufficient duty to point out dialectical errors, but should assist in the construction of as adequate ideas of nature as possible. Perhaps the physicist has had a wrong conception of the extent and nature, of the knowledge he achieves. It may be true knowledge of nature yet not complete knowledge of nature.

True knowledge may exclude that which claims to be further knowledge if an incongruity or contradiction would ensue from its acceptance. Does, perchance, the alienness of consciousness to the physical mean that the two are incongruous? I think that it is often supposed that this is the situation. It is asserted to be the height of absurdity to

seek to harmonize things so different from each other as consciousness and the physical. Can you measure love by a yardstick or weigh intelligence? it is asked. I remember that a prominent theologian, the president of a theological seminary, is said to have silenced some dogmatic materialists by such an interrogation. And at first glance, the objection seems final. But is not the old fallacy at work here which we exposed in the foregoing paragraphs? Love is not a physical thing, nor is intelligence physical. Love is an emotion and, therefore, of the nature of consciousness. We have seen, however, that consciousness is not a substance and does not lay claim to be a thing among other things in a spatial and causal connection. It is, therefore, nonsense to apply the same categories to consciousness as to the physical world. The physical world may be extended and its parts have weight and yet be conscious, that is, have consciousness within it as a part of its nature. The judgment of incongruity rests on a misunderstanding. When we assert that consciousness is not alien to the physical as an existent, we do not mean that the same categories are applicable to the *physical as known by the physical sciences* and to consciousness, or that the physical as it is conceived by common sense or the naïve scientist is logically classifiable with the psychical as this is conceived by common sense. The logic of classes of objects as conceived by common sense leads to incongruity. Thus incongruity is a result of a point of view and is no more final than the point of view itself. What we wish to do is to get back of this superficial view of the physical which identifies the physical with the knowledge we have gained of it through the external sciences.

Does, then, the alienness of consciousness refer to a contradiction? If so, there must be some property of the physical which contradicts consciousness so that it is impossible to assert them both of the same thing. The argument is somewhat as follows: Just as you cannot think a geometrical figure as round and square at the same time and have a self-consistent thought, so you cannot assert consciousness of a subject which possesses this other property. This is the character of the objection advanced by Busse against materialism. "Psychical and physical characteristics exclude one

another; spaceless thoughts and feelings which are neither thick nor thin, neither long nor short, neither round nor angular, neither moved nor unmoved, can in no way be the characteristics of a spatial-material thing." (*Zeitschrift für Philosophie und Philosophische Kritik*, Band 114-115.) It will be well to point out, first of all, that the problem is not whether the properties of the physical as known conflict with the properties of consciousness. We are not trying to *identify* two subjects with each other, but are trying to enlarge our conception of the one so that it will include the other without a logical conflict. When Busse asserts that feelings, which are spaceless, cannot be the characteristics of a spatial thing, he evidently thinks that the assignment of feelings implies the proposition that things must be spatial and spaceless at the same time. This is a mistake. As classes thought about by scientists, the physical and the psychical have contradictory attributes. This fact must not be confused with the question whether the physical as an existent can absorb consciousness. When we come to treat of the relation of consciousness to the brain in a more detailed way, the difference which I have in mind will stand out more clearly. Consciousness will be seen to be not an external attribute, but a part of reality. Of course this position is not exactly like materialism, but it is nearer to it than to idealism. Were I inclined to lay much stress upon the argument advanced by Busse, I would point out the fact that qualities such as color are assigned by common sense to physical things, although they are spaceless. Does not Hume somewhere raise the question of how savors and perfumes are in things as their qualities? All that logic enables us to say is, that contradictory attributes shall not be predicated of the same thing and that classes with contradictory attributes cannot be identified; it does not give us the right to say that the attribute of an attribute must be uncontradictory of an associated attribute. The assertion that matter is conscious under certain circumstances does not, because consciousness is unextended, conflict with the assertion that matter is extended. This is an affair of logic. Later we shall see that, in a very real sense, consciousness is extended. This

statement will seem absurd to those who think that only things can be extended. I can only ask them to have patience until I can take up the topic. It is interesting that Locke saw no contradiction in the association of consciousness with matter, although he believed that matter is evidently in its own nature void of sense and thought. (*Essay*, Bk. IV, Chap. III.) I think that we must agree with Locke as to the absence of contradiction.

If there be no incongruity or contradiction in the assignment of consciousness to the physical, the only possible reason which could prevent such a reference would be a knowledge that nature is void of consciousness. We have seen that this is the usual view, and it is certainly that held by Locke. But how can anyone prove that the physical is necessarily void of consciousness unless its presence involves a contradiction? And Locke himself has pointed out the empirical character of our knowledge of coexistence and repugnancy to coexistence. All any advocate of the alienness to consciousness of the physical can do is to state that his concept of the physical does not include either consciousness or the potentiality of consciousness, which statement would be interesting as a fact, but would scarcely prove anything.

But there is another aspect of this problem which is of special importance because it brings to the front the implications of change. The full treatment of change will come under the category of time (a category to be analyzed in a succeeding volume); however, certain points can be touched upon now. What we wish to call attention to is the tendency to disregard the penetrative workings of change in nature. Locke rests his case against materialism seemingly upon a denial of any real change in the physical. (*Ibid*, Bk. IV., Chap. X.) What is wholly void of knowledge cannot produce a knowing being. This is as impossible as "that a triangle should make itself three angles bigger than two right ones." A similar protest against the appearance of consciousness in a world evolved from nebulous matter is often voiced by believers in continuity. Does the principle of continuity exclude newness in nature? Let us examine Locke's argument first, and afterwards analyze the principle of continuity.

Locke's argument is of a logical character and is, in essentials, the traditional one employed against naturalism. There lurks in it a subtle fallacy founded on a misinterpretation of the negative and on a mathematical conception of the nature of the physical. Is the physical known to be senseless? That is, can senselessness be regarded as a positive characteristic which excludes sentiency as roundness precludes squareness? We can undoubtedly state that a mass of matter in a nebulous condition is not conscious, but this assertion must not be interpreted to mean that it possesses unconsciousness; that is, that it has an essence alien to consciousness. But such is the conception implied in Locke's comparison. A triangle is an object with determinate characteristics; its essence is laid bare in the definition. When it loses this it ceases to be a triangle; it has outraged its nature. We will acknowledge with Locke that this feat is impossible, for the simple reason that mathematical objects do not change. Time does not enter into their nature. They are conceptual constructions determined by the character of conceptual space. Is matter something logically fixed with its nature determined once and for all as a triangle is? Such a logical rationalism has more than once dominated man's view of reality. In such a world, reason can disregard Time as a blustering intruder who arrogates to himself more than is his due. Change is not penetrative for this outlook. But is nature logically determined as a mathematical object or a mathematical system is? Philosophy has no right to assert it unless it can be proved or unless its assumption enables the thinker to organize experience in a way not otherwise possible. Let us come back to the question of the interpretation of the negative. Is not a negative which cannot be transformed into a positive term merely expressive of the absence of a certain positive term? It does not involve the assertion of a contradictory positive term. Perhaps I can make my argument clearer by means of an example. If I assert that a certain liquid is colorless, do I mean more than that it does not have any color? I do not assert the presence of an attribute which is contradictory of color. Suppose I take it for granted that an object must have some color; then, if I say that an object is not red, I know that it must be brown

or yellow or purple, or what not. A negative in this case implies some positive of the same class. Thus a negative varies with the context. If the context is disjunctive, the negative is, implicitly at least, a positive; if the context is not disjunctive, this is not the case. Thus Locke argues that, because matter is at one time void of knowledge, it must always remain so. Voidness of knowledge is taken as a positive characteristic defining matter which excludes knowledge, even as the equality of the angles of a triangle to two right angles excludes equality to three right angles. In the case of the triangle, the system is such that there is no negative which is not implicitly a positive. However, when we turn to the physical world as an evolving process we realize that absences are not positive characteristics which hinder the production of new positive ones. Nature is not a geometrical system, and negatives are empirical interrogations founded on the absence of some attributes and the presence of others. Nature moves, not from negative to positive or from positive to negative, but from one positive condition to another; and it is probable that these changes are more gradual than our concepts are capable of expressing. Thought cannot dictate to nature, yet nature dictates to thought. It does not pass from privation to possession, but from possession to possession.

While we are touching upon the logic of the negative, it may be worth our while to note another attempt to apply it against consciousness. Rehmke argues that consciousness cannot be an intermittent characteristic of the physical, because reality shows us no instance where a special characteristic of a body vanishes without another of the same kind taking its place. A color always replaces another color. But, as Busse points out, when a body loses a straight motion, it does not have to move in some other way; it can become motionless. Thus motion would be intermittent. But, so far as we know, consciousness is *sui generis*, and this type of argument does not touch our problem very deeply. It is evident, I think, that formal logic cannot prove that nature is alien to consciousness. Experience alone can decide the question.

We are now prepared to discuss the principle of continuity

in its relation to the presence of consciousness in the world. The majority of thinkers appeal to this principle as though it were susceptible of only one interpretation. Thus James asserts that "If evolution is to work smoothly, consciousness in some shape must have been present at the very origin of things." (*Principles of Psychology*, Vol. I, p. 149.) This statement arises out of his belief that the brain is nothing but the selfsame atoms which make the nebula, jammed and temporarily caught in peculiar positions. For this view the relations between the atoms are external, and organizations which are more than arrangements do not exist for nature. I, on the contrary, take evolution to mean the development of wholes which are not merely collections of units. For the mechanical rationalist, there is nothing new in the brain except the rapidity with which the atoms strike one another and the paths traversed by the moving particles. But these could supposedly be deduced from the past and are not, therefore, considered new. We have in this outlook the application of the mechanical form of the principle of ground and consequent. By the very nature of the system, the principle of sufficient reason is changed into that of sameness. Mechanical rationalism has a transparent nature, and this transparency precludes newness. Thus Strong, who follows James, states that "The worst difficulty of materialism was to explain how in the midst of a *purely material* world such things as minds could ever arise." (*Why the Mind Has a Body*, p. 292; italics mine.) The argument is evidently of this character: Granted the alienness of the physical and consciousness, reason cannot connect them; and so the appearance of consciousness is inexplicable and *against* the principle of sufficient reason. But we have tried to show that there is no warrant for the assumption that consciousness is alien to the physical; and we must not confuse rationality and sameness. I see no justification for the rather current position that intelligence is limited to the connection of the same with the same in series. All depends on the nature of the system within which intelligence is at work. A true empiricism, on the other hand, recognizes that newness occurs in nature as it does in our experience. The conditions of the rise of the new should be investigated,

but this does not mean that the new can be reduced to the old in any absolute sense. Thus the biologist sees the rise of new organs in the animal kingdom but his explanation of them consists in showing what function they perform and how this function is demanded by the relation of the organism to the environment. If evolution is to be taken seriously by science, the principle of continuity must not be taken to exclude newness. I must confess, then, that the assertion of James that "If evolution is to work smoothly, consciousness in some shape must have been present at the very origin of things" seems to me a bit of dogmatism.

It is interesting that Bradley does not feel the same objection to the origin of consciousness from what we usually speak of as physical conditions. "We might have at one moment a material arrangement and at the next moment we might find that this arrangement was modified, and was accompanied by a certain degree of soul. Even if this as a fact does not happen, I can find absolutely no reason to doubt that it is possible, nor does it seem to me to clash with our preceding view." (*Appearance and Reality*, p. 337, second edition.) Of course, Bradley must not be considered a materialist because of his denial of the dogmatic use made by some writers of the principle of continuity. For him the relation of mind and body is, in its essence, inexplicable because the two are not realities; they are phenomenal series artificially abstracted from the whole, and each is self-contradictory (*ibid*, p. 336). I, on the other hand, regard our knowledge to hold, not of phenomena, but of reality. Hence, the assignment of consciousness to an evolved physical organism is regarded by me as a solution of the problem, so far as metaphysics is concerned. There are, however, certain further difficulties of a more specific character which must be cleared away before the absorption of consciousness by the physical world can be thought without seeming contradiction.

It may be asserted that what is active cannot also be conscious. Since, however, it is the very nature of consciousness according to modern views to be associated with, and expressed in, conduct, there can be no difficulty as regards activity in general. The objection constantly raised concerns a supposed

divergence in the type of activity characteristic of each. Consciousness, it is said, is purposive and recognizes values, while the physical is mechanical and is blind to worth. Many of the keenest thinkers proclaim this contrast to be ultimate and irreducible. Busse, for instance, maintains that it is impossible to give the physical correlate for all psychical processes. The mechanization of the psychical processes is the logical result of the attempt to find parallels. The attitude taken by Ziehen (*Outlines of Physiological Psychology*) or the special-science view of psychology adopted by Münsterberg is the result of the pressure exerted by the exact sciences. Granted the validity of the usual mechanical theories of association on the neurological side, and it certainly seems impossible to understand how there can be correlates of judgment. Wundt places stress on values, but I see no reason why judgments of values should be regarded as more difficult to explain than other kinds of judgments. (Wundt, *Philosophische Studien*, Band 10.) May not the difficulty be that Psychology has been too submissive to the other sciences? Instead of accepting neurological theories obviously dominated by ideals unsympathetic with her material, she should have insisted on the probability that association involves more than the mechanical hypothesis of pervious paths and drainage accounts for. That a science should eviscerate itself because of undue modesty is not a good thing, unless it be known that it really has no subject-matter of its own on which it can rely. I see no reason why psychology should not dictate to neurology or, at least, make suggestions to it. Only through the relative autonomy of the sciences can adequate concepts be developed. Thus we may conclude that only he who can prove that the physical, no matter how it is organized, must act mechanically has a right to assert that consciousness and the physical conflict irreconcilably in their type of activity. But, if evolution is more than appearance, it surely implies a change in the mode of activity of parts of nature; that is, nature is not a dead-level system. Instead, it develops grades of causal activity as it evolves. The full treatment of this view must be postponed until the category of causality is examined. (See, however, a

brief résumé of the position in the *Journal of Philosophy, Psychology, and Scientific Methods*, Vol. VI., p. 323.) Suffice it to assert that there is no adequate reason to deny that the physical world rises to the level of purposive activity, and that consciousness is an immanently produced variant in such a physical world.

Let us continue to remember that the physical sciences which investigate nature on the basis of our thing-experiences cannot perceive values. That does not enter into their material. Even when they consider the conduct of a man, they can only judge that his behavior is *as though* he gave heed to values. To talk of the physical world as blind to values would be justified only if organisms acted as stones do. Surely man is a part of nature. Only the thinker who degrades nature finds naturalism degrading. Much of the difficulty that is being found with the view that every process in consciousness has its physical correlate comes from the special turn given to it by parallelism. Hence, we must examine parallelism.

Parallelism has two meanings, the empirical and the metaphysical. The metaphysical goes back to Spinoza. Mind and body are supposed to be two aspects of the same substance. To every soul there is a body and to every body a soul. Thus, there must be the most minute correspondence between these attributes, since they are grounded in one substance. To the Spinozistic position, we can but reply that it has insuperable difficulties to face and does not seem to agree with the empirical facts so far as we can determine them. How are these attributes related to the one substance? As attributes, why should they correspond in the peculiar way that mind and body do? Does it not further involve the extension of mind to all parts of nature in a purely deductive fashion? We remember that the theory of Spinoza was founded on the two-substance theory of Descartes, and we have already denied the validity of the Cartesian formulation. The essence of the physical is not extension. Instead of having two apparently alien realities to unite by making them attributes of an unknown substance,—a formal or logical union at its best,—we have challenged the premises,

or matrix, out of which Spinoza's position was developed.¹

When we come to examine modern *metaphysical* parallelism more closely, we begin to wonder what it means. Is it more than a metaphor? To speak of consciousness and the body as two sides of the same thing, or as comparable to two languages, or to the concave and convex sides of a sphere is to appeal to imagination. Does it mean that the elements and relations of one correspond, point for point, with the elements of the other? If so, the mind is a duplication of the brain in another stuff. You simply have two stuffs where one would do, and nature has sinned in its inmost depths against the principle of economy. So far as parallelism condemns interaction, it stands for the independence of each separate realm and for the claim that the physical can be explained only through the physical, and the psychical through the psychical. Moreover, it holds that such explanation is satisfactory to the reason. To this construction, it should be replied that consciousness is not a stuff or substance. This we have shown in some detail. Therefore, it is nonsense to speak of the elements and relations of the one as corresponding to the elements and relations of the other. It is of the very nature of consciousness to be temporary and unconserved. To this the advocate of parallelism may reply that consciousness is like an electric illumination which temporarily takes on the form of the letters which the bulbs spell. But this is to acknowledge that consciousness comes and goes. The consequence is, that reason asks why it comes and goes and why it takes this form. If mind is distinct from consciousness and is a stuff, it is unknown except through consciousness. It performs the function of a soul only in so far as it produces consciousness and is open to all the epistemological objections that have discredited that entity. And if mind is different from consciousness and is unknown, why not call it matter and escape an uneconomical duplication. In truth, we move here in a mass of concepts and dilemmas which have no epistemological foundation. Parallelism belongs to pre-Kantian metaphysics.

¹"The one substance which is supposed to manifest itself in two attributes, the physical and the psychical, is nothing but a word which expresses the desire to escape from dualism, but which does not really bridge the gulf for our understanding." (Stumpf, *Leib und Seele*, p. 16; quoted from McDougall, *Body and Mind*, p. 160.)

Let us, then, keep to consciousness. Since consciousness is given, we can ask ourselves whether it contains elements and relations corresponding to the atoms and molecules or electrons or cells of which science speaks. To ask the question is to answer it. The empiricist knows that continuity and wholeness is the characteristic of consciousness. Granted the usual mechanical view of the physical world, the parallelism of consciousness to it is absurd. Yet there is a sense in which the demand for parallelism has meaning: consciousness must fit into the physical. Later we shall show that it does fit into the physical and is absorbed by it. But with such an absorption, parallelism disappears, since dualism, which is its premise, is forsaken. Again, as interactionists have shown, the physical, as this is conceived by scientists, cannot account for all events in its domain. Only he who is ridden by a dogma can believe that the acts of a man are explained by physics and chemistry. Let us stop a moment to consider this point before we examine the theory of interaction.

There is an order in human conduct which demands explanation. All that occurs in nature involves quantities and is so far known by science; all brain-events involve chemical processes and are theoretically knowable by chemistry. But these chemical events have a context of conditions; and the question is, whether or not this context which acts as a control is properly reducible to a series connected only externally. Until organic chemistry faces this problem of control, it cannot be said to deal adequately with the peculiar characteristic of behavior. As a special science, has it not limited itself? Therefore, it has not the right to dictate to biology. In short, the categories of the special sciences reflect their point of view.

We criticised parallelism of a metaphysical sort mainly because of its meaninglessness. If mind and body merely duplicate each other and both are capable of doing what the other does, their coexistence is a marvel. Moreover, metaphysical parallelism is deductive in character and goes far beyond what experience justifies.

Now, interactionists are more empirical than parallelists.

They try to keep to the differences between the action of mind and the action of the physical as these have ordinarily been conceived. The interactionist accepts the mechanical view of nature and shows that nature must, therefore, be supplemented by mind in order to account for human conduct. If we grant the premises, the conclusion appears to follow inevitably. We shall not lay stress on the hackneyed arguments against interactionism based on the principle of the conservation of energy. Were this principle all that stood in the way, it could not be adjudged a sufficient obstacle. The real obstacle which interactionism must meet is the justification of a soul. We know nothing of a mind or soul substance coördinate with the physical world. Experience indicates consciousness, the mind, and the physical. The question is: How are these related? Until it is proved that they cannot be united without a dualism, theories, like parallelism and interactionism, are out of order.

We pass next to what we have called the empirical meaning of parallelism. I have always been inclined to call this a temporal parallelism while the metaphysical parallelism has seemed to me to be founded on spatial concepts. Now, the facts appear to indicate that, to a series of pulses of consciousness, *A B C*, a series of brain-states, *X Y Z*, correspond. In this sense, they are mathematical functions of each other.

We have every reason to believe that each brain-state is unique and that each pulse of consciousness is likewise unique and irrecoverable. This belief is founded on the facts which point to the relative localization of sensory areas and on the part played by the association tracts. Such an empirical parallelism, which is essentially temporal and bespeaks a correspondence of brain-states (and not of material elements and their relations) to the temporally coincident phases of the individual's consciousness, is a scientific hypothesis which has so far been supported by investigation. It is free from the absurdities of the older metaphysical forms of parallelism. It does not assume that consciousness is a substance or that it is an evanescent copy of the physical world. The psychologist does seek to show, however, that to such a mental activity as association, which lies back of such temporal

processes as memory, recognition, and reasoning, there corresponds the spreading of excitement along the association fibres of the brain. There is thus a *correspondence of method* in the two domains.

The clearest denial of this empirical form of parallelism is to be found, not in interactionism, because this is opposed to metaphysical parallelism, but in the position of M. Bergson who flatly denies that there is a unique series on both sides. "If we take a given brain-state," he says, "I believe that many psychological [psychical] states are able to graft themselves on it." (*Bulletin de la Société Française de Philosophie*, May 2, 1901.) This view claims to be founded on observation, although it is impossible for me to conceive how observation can perform the task assigned. Let us glance at the method he adopted. He passed to the most complicated part of nature, the brain, and concentrated his attention on the part of the brain which conditions a certain function of speech. On the mental side, he abstracted from the higher and more complex mental processes and sought to analyze the memory of words, especially the memory of the sounds of words. "I was," he asserts, "this time on the frontier; I was almost touching the cerebral event in which the auditory vibration continues itself. And yet there was a separation. I saw, at the precise moment when the psychical fact is going to double itself with a cerebral concomitant, why and how the thought has need to develop in movement in space all that which it encloses of possible action, all that which it has of motor quality." (*Ibid*, pp. 48-49.) Introspection and theory are strangely mingled in this description, so that theory almost masquerades as fact. What have we here more than the statement that every psychical fact has motor consequences, that images and ideas are qualified with kinæsthetic meanings, and that the purely sensory is an abstraction? How, indeed, from the very nature of the case could M. Bergson know that the psychical fact is *at first alone* and only later takes to itself a cerebral state to express its motor nature? The basis of this position is determined by a theory of matter and a theory of perception. The brain for M. Bergson is a system of possible reactions on things, and consists entirely of paths

along which a stimulus may travel. The result is that the sensory correspondence of the brain is eliminated from the start. It is no wonder, then, that many thoughts may connect themselves with one cerebral event. If we grant his interpretation of the brain and of perception, all that is needed further is the acknowledgment that many trains of thought may express themselves in the same overt action. But this fact is accepted by parallelism of the empirical type also. The parts of M. Bergson's hypothesis do not stand alone; we have to do with a system which is in nearly every detail different from that which we have felt ourselves forced to construct. What M. Bergson has brought out excellently is the fact that there are different levels in consciousness and that the higher, more abstract, levels are built upon the levels of sensation, perception, and imagery. But introspection cannot decide that only the lower levels have a cerebral concomitant. The *ideo-motor* view, which has become almost a fact in psychology, asserts that the bare idea of a movement's sensible effects is its sufficient mental cue; but trains of thought involve *apperceptive* systems corresponding to systems of association, and these only gradually settle down into a conclusion which has a motor basis. The aroused energy of the brain is at first kept in longitudinal tension, as it were, and only after an interval does a system form which is longitudinally stable. When this occurs, the energy sinks downward and passes into action. We shall therefore accept an empirical, temporal parallelism, *i. e.*, the position that every pulse of consciousness has a physical correlate. We see no reason, however, to hold that the reverse is the case.

Yet another problem confronts the absorption of consciousness by the physical. Suppose it to be admitted that the facts require a more flexible view of physical activity through the levels of nature which are correlated by the theory of evolution than mechanism can supply, there still remains the task of harmonizing extension and consciousness. Can that which is extended be conscious? That which is extended must, in that case, be conscious throughout its extension. Does not this involve, however, that extensiveness is a character of consciousness? If, for example, the whole cortex functions

during any pulse of consciousness, must not that surge of consciousness be in some sense itself extensive? Before an attempt can be made to answer this question, a clear idea must be attained of the exact meaning of extension when applied to consciousness and to the physical respectively.

Consciousness is a manifold as well as a unity; its parts are notionally separable even if not so existentially or, as logicians usually speak of it, physically. It has depth, or an organization of levels, and extensiveness, or the breadth of the field of objects and ideas experienced together. For both these aspects, psychology has pointed out a cerebral parallel. Its continuity at any one time is that of a functional system dominated by a purpose or a conflict of purposes instead of that of a seamless garment passively continuous, that is, unturned. It is an intensive manifold whose unity is conative and based on a synthesis of a peculiar kind in which the elements have no prior existence. The psychologist is convinced that consciousness is partially expressive of habits, tendencies, associations, apperceptive systems, past syntheses, and that these control much that appears in experience from time to time. He is, however, also convinced that these relative unities are undergoing change according to the situations in which the individual finds himself, and that consciousness plays a decisive part in this process of maintaining and reconstituting the individual. Thus consciousness is a synthesis whose parts have no preëxistence although they have a source. We must reject all theories tending towards mental chemistry, for these shade into, and are sympathetic with, mind-stuff hypotheses and their ilk — views which, as we have seen, are founded on the misapplication to consciousness of the category of substance. Consciousness is not directly conserved. Hence, we may conclude that the continuity of consciousness is not additive but functional. The unity is born with that which is unified. Let us look at the brain to see if we can discover anything analogous in its working.

If we are to follow modern theories in regard to the localization of cerebral functions, certain kinds of experiences are quite definitely related to particular parts of the brain.

Parts of the brain seem to possess specific energies, that is, capacities. The question as to the innateness or the acquired character of these capacities is irrelevant to the present problem. The important point to consider is this: Do cerebral centres have a unity? We have already broached this problem from the side of causality. We are interested now more from the side of space, although the two aspects are not finally separable. Does space, as some hold, necessarily involve complete externality of parts in the sense that wholes are mere additions of self-sufficient units? There seems to be a confusion in the minds of those thinkers who hold such a view between mathematical and real, or physical, space, that is, reality as extended. Positions in mathematical space are external to one another because they possess no other property by reference to which they can be distinguished. It is in this sense that mathematical space is homogeneous. Internal relations in a homogeneous, non-qualitative continuum would be meaningless, since they would have no basis. Externality follows, then, as a deduction from the nature of the system. Physical extension, on the other hand, is not distinct from the things and processes which are spatial, and, hence, cannot dictate characteristics to things. It follows, then, that *a priori* reasoning from the nature of mathematical space cannot determine the non-existence of internal relations and of dynamic, synthetic unities in the physical world.

Since we are concerned at present more with the general outlines of the mind-body problem than with a justification of the details, we shall assume the correctness of the criticism we have passed upon the universalization of mechanical principles and shall hold to the position that the brain develops systems which are functional unities. What more we shall, perhaps, say upon this question will be in the way of suggestion.

In what sense can we speak of consciousness as extensive? It has for so long been the custom to consider consciousness as unextended, that this question may at first strike the reader as absurd. Surely consciousness cannot be measured with a foot-rule or divided into parts which exclude one another. How could such a division be made, since continuity is one of the chief characteristics of consciousness?

It would be as ludicrous to attempt to separate a feeling from a perception as to endeavor to perform an operation upon a ghost. These are not physical things, and we should not apply to them the categories and concepts which we apply to physical *things*. In an earlier part of the chapter, we saw that consciousness was not a thing which sought position alongside of other things. It is a variant, and not a substance. You cannot superpose a standard unit of measurement upon a variant, nor can you deal with it after the fashion of the external sciences. The parts are more than organic to one another and are temporal; hence, they are not divisible. Thus all our associations with the extension of physical things are at fault if carried over to consciousness. Consciousness is not extended after the manner of a physical thing, for the very simple reason that it is not a physical thing. Let all this be granted; yet in a very real sense consciousness is extended. As a variant of the brain, it is *in* the brain, not as an ivory sphere is encapsulated in another in those curious products of Chinese patience which we see in museums, but in a unique way which it requires reflection to make clear. This uniqueness follows from the genuine uniqueness of consciousness or, what is the same thing, the essential difference between consciousness and the physical as this is known by the physical sciences. Now, the relation indicated by the preposition "in" is thought of in terms of the presence of one measurable physical thing in another which is larger. Thus the smaller object is a part of the larger or occupies a part of the space included by the larger. A cell, for instance, is a visible part of organic tissue. Undoubtedly, this is the meaning which we give to the word "in"; and its basis in perception and in the concepts of physical things which we are forced to construct is evident. I wish to point out that this meaning and its associations should not be transferred to the quite different sphere of the relation of consciousness to the physical. Consciousness is existentially present to that part of the cortex which is functioning, and the brain's space is its space. It is where it arises and where it acts. When we call it a variant of the brain, we imply that it is inseparable from the brain and penetrates it with right as a part of the reality of the brain. Consciousness is

the brain become conscious; it is a highly evolved part of reality flowering out into that unique and non-substantial variant which forms our experiencing. Evidently, it is not *in* the physical as one physical thing is in another, and to conceive it properly we must revise our unduly limited notion of what "being in a thing" may mean. Let us see whether we can create a clear and definite idea of what this new type of "inness" is.

The best experiential basis for a comprehension of the inness of consciousness is the feeling which we all have of the penetration of our body by the vital feelings and by pleasure and pain. Our body fairly tingles at times with emotion. This is why the ancients assigned consciousness to the heart or the liver. Such empirical localizations had their foundation in a felt presence of part of our experiencing in the body. It is from this datum that animism took its rise. Primitive man simply took it for granted that other things, like trees and stones, were penetrated by a vital self as his body was. Animism of this form is not dualistic; there are not two separable things, the body and the vital self. The body *is* animated, that is, the body is *experienced as animated*. It is only later that reflection makes a soul in the true sense of the term; the soul is a hypothesis to account for certain misunderstood facts, such as those of dream-life and of trance. It is this reflective animism alone that is dualistic. And, strange to say, its clumsy dualism lingers yet in psychological and philosophical circles. Make an entity out of consciousness or its source, the soul, and the tantalizing, because unsolvable, mind-body dualism appears. What I have been endeavoring to prove is that this is a pseudo-problem, that the brain contains consciousness. To take consciousness from the brain is to degrade it, to rob it of part of its reality. It is, then, this experiential animism which furnishes us the most satisfactory foundation for the proper conception of the presence of consciousness in the brain. Yet we must not rest in the experience itself, but must, instead, use it as an aid and an aid only. We do not feel consciousness in the brain where reason tells us that it is. Thus its whereabouts is not given as a matter of intuition. But why should it be so given? When we come to

think of it, such an intuition would be impossible. It would involve a distinction of consciousness from the brain, that is, knowledge of itself and of the brain and of the relation between the two. But consciousness cannot know the brain unless it be represented as an object in consciousness, that is, unless it stimulates the brain and thus controls the rise in consciousness of a percept. But the brain cannot stimulate itself through the sensory nerves. It follows that consciousness knows where it is only indirectly. We may say, then, that the presence of consciousness in the brain is not the relation of one thing to another, but the immanence of that part of reality which is our changing field of experience to the rest of the same existential part of the physical world. Unfortunately, there is no adequate word to express what we think. To call consciousness an aspect of reality is to court the danger of falling into the quagmires of the double-aspect theory. It is not an aspect of reality; it is reality, although not the whole of reality. In consciousness we are reality, although not the whole of it. Hence, to speak of it as an aspect is wrong, if the association of appearance to an external knower—the traditional association—is maintained. Nor is consciousness the inner side of reality while that which we learn through the physical sciences is the outer side. The distinction between an inner and an outer does not hold for reality. The transference of such spatial contrasts to reality should be discouraged. Because a certain class of information about reality is gleaned by means of the material controlled by the external organs of sense, that is, the organs concerned with stimuli coming from outside the body, it does not follow that the knowledge thus obtained deals with an outer aspect of reality. Were this so, we should be forced to judge that the proprioceptors, that is, the organs concerned with stimuli arising within the body, give us knowledge of the inner aspect of reality, which is evidently nonsense. Consciousness is not in the cortex as one thing is in another, nor is it the inner aspect of the brain.

Consciousness, we have said, is a part of reality, although not a measurable part. With this "givenness" of a part of the total nature of reality must be contrasted the *knowledge* about reality gained through the physical sciences. This knowledge is as

complete as we can obtain in this fashion. But it remains knowledge; it is not reality. When we come to examine the knowledge thus obtained, we find that it deals with reality as a measurable substance whose parts have a certain structure, and function in certain ways. Now, we have every reason to regard the knowledge which we gain in physics, chemistry, and biology as valid; yet it is not knowledge of consciousness. It is evident, then, that consciousness does not exhaust the whole nature of the brain. When the cortex functions, consciousness forms part of the nature of the brain, of what is existentially there. It is simply a part of the whole nature of the brain which cannot stimulate the sense-organs and, hence, cannot be known by the physical sciences. We can now see more clearly what is the matter with panpsychism. It makes consciousness the whole reality of the brain, and is forced to regard the knowledge acquired by the physical sciences as not knowledge of reality. Our position is that this knowledge is of reality and that it does not conflict with the inclusion of consciousness in the physical world.

We can now return to the question which has dominated the discussion for the last few pages: In what sense can we speak of consciousness as extended? We have tried to prove that consciousness is in the brain in the sense that it is part of the nature of the brain when it is functioning; it is what we have called a *functional variant* of the cortex. As such, there is no valid reason to deny that consciousness is an extended manifold. It arises in and is effective in the physical world. Its unity is that of the integrative activity of the brain which it helps to direct. Hence, it is as extended as the brain is. Let us try to interpret this logical conclusion of our analysis of the mind-body problem.

The reason why thinkers have asserted that consciousness is unextended is that it cannot be treated like a physical thing. To speak of the size of a sensation in terms of millimeters is absurd. One cannot superpose units of measurement on images as one can on things. It is true that images have apparent size; but, since images cannot crowd out things, this space is looked upon as imaginary. By contrast, real space is the space occupied by physical things and, as we have

said, images are not things in this space. The reason is, of course, that they are not physical things. But we have seen cause to assert that this space which things are conceived by science to occupy is a conceptual creation of the mind. Instead, physical realities are extended. Real space is, therefore, not space as this is conceived by mathematics, it *is the physical thing* known by us to be extended. Hence; if consciousness is in the cortex as a variant, it must be extensive; yet it does not follow that mathematics is applicable to it as it is to the physical thing as a whole. Mathematics is, strictly speaking, applicable only to that which is measurable; and consciousness is not measurable—for two reasons. In the first place, a physical standard cannot be applied to it; in the second place, it cannot cause perceptions referable to itself. Hence, the extent of the cortex in which consciousness is at any one time can be known only indirectly. We must bear in mind what we proved above, that consciousness has no intuition of its whereabouts.

There is another point to which attention should, perhaps, be drawn. An image or a percept has extension as an attribute, that is, it is experienced as extensive. For instance, my image of the Louvre certainly looks larger than my head. How, then, can it be inside my head, as it must be if consciousness is a variant of the cortex? *Very easily, since the size of presentations in the field of the individual's experience has nothing to do with real space.* Images must not be thought of as stretched out in the brain or, if they are too large, curled up in it. The same holds of thing-experiences. A house-experience which I have when I look out of the window is many times larger than my other thing-experience which I call my head. True, but what of it? I certainly am not inviting the reader to believe that one-thing experience is in another. Is the space of objects in experience therefore unreal? Assuredly not; it is simply a mistake to take it for what it is not. An image does not give us an intuition of the part of reality with which it is existentially connected. The thing-experience which we call the brain is in the reality we call the brain, whose size, relative to the meter-stick, we know. We know nothing of absolute sizes of parts

of reality; yet we do know the absolute size of our images, while we also know their relative sizes in relation to one another. In short, a pulse of consciousness has an intuition neither of its whereabouts in reality nor its extent in reality. We cannot tell by introspection how many cells and association fibres must function to produce an image. Cerebral localization can be known only indirectly. Were consciousness to contain an intuition of its own extent, that would be tantamount to an intuition of the extent of reality of which it was a variant. But we have already seen that consciousness is self-contained, and that extent is not an attribute experienced as holding of the total field of the individual's experiencing. Hence, we may conclude that consciousness is extensive but that we should not try to form an image of its extension. Consciousness is not a stuff whose parts are side by side and exclude one another, but a unity of a high order. Dominated as we are by concepts and images resting on our thing-experiences, it is extremely difficult to restrain ourselves from attempting to picture consciousness as an object with an extended surface. A little reflection, however, shows us what nonsense such an outlook is. Consciousness is the total changing field of the individual's experience and is as it is experienced. Its manifoldness and continuity are the aspects which most nearly reflect the complexity and functional unity of the cortical system in which it is.

The problem of the efficacy of consciousness involves a detailed analysis of the probable nature of causal systems in reality. While we have hinted at the solution, a justification of it would be impossible apart from a thorough examination of the categories. Two points alone can be touched upon. First, if consciousness is absorbed by the physical world as this must be conceived by metaphysics, the efficacy of consciousness would not conflict with the principle of the conservation of energy. This assertion does not mean that consciousness is a form of energy, for energy is a measurable quantity in its primary meaning and consciousness is the part of reality which we live — not simply know about. In the second place, if consciousness is to be effective in the cortex, the cortex must be more than a mechanical system; it must be capable of

forming and maintaining functional unities which are veritably wholes irreducible to a mere sum of elements. If this be the case, the efficacy of consciousness cannot be set aside as unthinkable, because it is impossible to imagine how a feeling of pleasure can produce motion or an idea loosen the attractive force between two molecules. Instead, how best to think the processes which occur in such systems becomes a problem for both philosophy and science to face. In our theory of causality we must take organization more seriously into account.

Our main purpose has been to prove that consciousness is not alien to the physical. In a general way, this conclusion has been justified. While the physicist does not meet with consciousness either in his facts or in his theories, that circumstance is due to his subject-matter. He attains true knowledge of reality, but this knowledge does not conflict with the presence of consciousness in nature. We have seriously considered the reasons customarily given for the exclusion of consciousness and found them based either on dogmas or on mistakes in logic. Materialism and panpsychism are both extremes which are based on a denial of the validity of part of our actual knowledge; and this denial is due in part to the narrowness of specialism and in part to a false theory of knowledge.

At various times we have hinted that mind cannot be simply identical with consciousness. Consciousness is a flux which comes and goes. It is, moreover, by no means completely self-sufficient. A stimulus which enters consciousness is able to do so only after it has been interpreted by mind in the light of past experience. Thus there are conditions which partly determine what shall be perceived. A recent psychologist has emphasized the part played by types as relatively flexible mental forms which interpret an incoming stimulus. (Pillsbury, *The Psychology of Reasoning*.) In a similar manner, other psychologists stress the importance of the purpose which dominates the mind. This purpose may be only vaguely present in consciousness, yet it is functionally active. We may say, in fact, that consciousness contains only a minor part of the factors which account for the consciousness of the next moment. In the discussion of the self in Chapter IV, we pointed out the evident complexity of

the individual's character: his habits, slowly acquired upon the basis of heredity; his ideals; his knowledge, which is largely potential at any one time; and his natural aptitudes along various lines, trained as a result of the experiencing process which works back into the conditions that partly control it. Again, we must not forget that the *structure* of the field of the individual's experience is due to an organization which rests on the past. Consciousness, as we experience it, rests on mental capacities which are apparently the result of evolution.

It appears, then, that consciousness arises within a system which must be studied ontogenetically and phylogenetically. This system is what we call *mind*. In it we have epigenesis and preformation harmonized in a true development. Experiencing leaves its trace in mind and is thus indirectly conserved. We all feel that our minds broaden and gain a wider reach. We achieve more adequate apperceptive systems, and these play into our conscious life in the most intricate fashion.

Although we would not identify mind and consciousness, we would not separate them. Mind somehow flowers into consciousness, and consciousness seems to function as the means to the growth of mind. Mind is conserving and enduring, while consciousness represents the moment of adaptation and change. We may say, then, that consciousness is fundamentally conditioned by mind as well as by the stimulus which comes to the organism from the environment. So far as reality is concerned, its newness is a relative newness which always has a ground. Because this ground carries along with it the past, memory and growth in general are possible; it is in this sense that the self is relatively the same through time. We must remember, however, that this would not help us much did we not feel ourselves to be the same in consciousness. As Locke saw, the sameness of a soul would not make immortality worth while.

Let us glance for a moment at the problem of memory. There are, so far as I can see, only two theoretical possibilities. Either experiences exist in a sort of mental cold-storage and memory is a literal participation in the past experience as it

again enters consciousness; or, memory is a new experience qualified by the present, for empirical reasons, as giving us knowledge of the past. The first possibility seems to me to sin against the essential characteristic of consciousness, its temporary nature. (One of my friends has designated this its volatility.) Consciousness does not possess a *durée réelle*, beyond the specious present, but seems to be more like a song which dies away only to be renewed. If, on the other hand, a memory be a new experience based on memory as a function of a conserving organ, this conserving organ must be the mind. That the mind should be capable of producing, under certain conditions, an experience similar to that which it produced once before, seems to me quite within the bounds of naturalness.

But what is the relation of the mind to the brain? Much of our present argument has concerned itself with the relation of consciousness to the brain as a physical reality. We tried to show that consciousness is not alien to the physical when this is rightly conceived. But this result would have no point if we could not establish some sort of identity between the mind and the brain. This identity cannot, however, be that of two substances, since the mind seems to be a developed system of capacities or functions based on evolution and educed and given concrete filling-out by that process which we call "learning by experience." Instead of appealing to psychical dispositions, we are led to suppose that the brain achieves intricate organizations, which grow richer and more flexible as time goes on. The psychologist calls these "apperceptive systems" and holds that they are the ground of meanings and concepts. The mind would thus seem to be the tremendously complex system of sub-systems gradually built up during the lifetime of the individual upon the foundation, and with the assistance, of congenital capacities. It is evident that we look upon the brain as the organ of the mind. When neurology frees itself from bondage to the current mechanical views, I feel sure that it will come to understand the part played by organization in the organic world and will no longer seek to over-simplify. Just as physics is beginning to shake itself loose from the childish idea of matter so long

dominant; so biology and neurology will soon come to admit that the brain surpasses the neat system of distinct, neural drainage-paths which has been assigned it. The mind's unity is the unity of the brain as an organ. It is the unity of the mind which gives unity to the stream of consciousness; and the unity of the mind is the unity of the brain as a functioning system.

Such a view could be regarded as the modern interpretation of the idea of the soul to be found in Aristotle when he is at his best. The mind is a part of the soul, and the soul of the individual is indissolubly one with the organism. "The soul is the completed realization of the body." For us, of course, nothing is finished, but everything is in process. I presume that I need not warn the reader against taking this comparison with Aristotle's position too literally. His notion of "form" is no longer tenable.

This solution of the mind-body problem opens up metaphysical vistas which I would gladly explore. But I must postpone this exploration until another time. We are engaged at present in giving a firm foundation to epistemology, and it was in pursuance of this task that we found ourselves obliged to justify the implications of the Advance of the Personal. The conclusion at which we have arrived enables us to meet the problems which confronted empirical mental pluralism: *Minds are distinct, while reality as a whole is continuous.*

CHAPTER X

TRUTH AND KNOWLEDGE

MANY thinkers have discussed the nature of truth without a prior examination of the meaning of knowledge; and this procedure has led to controversies more or less barren of results. We must ask ourselves whether the question of truth does not so revolve around that of knowledge that it is impossible to tell what truth means and is unless it be first known what knowledge is. This closeness of connection between the two terms is indicated by the fact that the expression "true knowledge" is felt to be a tautology. It is like speaking of a round circle. Why is this?

This problem of the connection of truth and knowledge can be approached in two ways, the analytic and the genetic, and these should lead to the same general conclusion. When I assert that it is nonsense to speak of a round circle, I do so because the adjective might suggest that there are circles which are not round. I know that the definition of a circle includes roundness. Is the case the same with true knowledge? Yes and no. It certainly does seem to outrage our sense of propriety to speak of true knowledge as though knowledge could be other than true and still be knowledge. Truth would seem to be the *criterion* of knowledge so that no information could be knowledge unless it were true. Trueness would be a stamp, or seal, placed by judgment upon ideas, theories, propositions, data, etc., without which they would be held in doubt or considered not to be knowledge at all. In the same way, we might consider roundness a sign of a circle so that no figure that did not possess this characteristic would be adjudged a circle. Trueness and knowledge, roundness and a circle would thus be inseparables. We would be able to state that whatever is a case of knowledge is true, and whatever is true is a case of knowledge. And this relationship we shall find to be very suggestive. But, in a very real sense, we can say that knowledge is not always true. Were knowledge always true,

it would be unlikely that we should have the term "true," for this is a contrast-word implying its antithesis, "false." It is evident that much that makes claim to be knowledge is denied its claim. It is finally considered false knowledge, and false knowledge is looked upon as no knowledge at all. Hence, the opposite of false knowledge is not true knowledge, but simply knowledge; and this is the reason why "true knowledge" strikes us as tautology. Does not this situation imply that trueness and falsity are reflective meanings assigned by judgment to what has claimed to be a case of knowledge? Ideas, theories, beliefs, and propositions claim to be knowledge and to give knowledge. But experience has made us aware that individual instances of these classes have failed to justify themselves. The result is that we are more wary and our reception of ideas which present themselves as knowledge is more inquisitorial and tentative. Ideas may be true and, again, they may be false. We may conclude from this analysis that the claim to knowledge and, accordingly, the meaning of knowledge logically precedes that of truth and its opposite, falsity.

The genetic approach will likewise confirm us in the opinion that truth is a reflective meaning. It has often been pointed out that a child believes everything it is told. So long as there is no contradiction, or so long as the child does not realize that there is a contradiction, it accepts statements as knowledge. Man's primary attitude is belief, not doubt. The predominance of an idea carries belief with it, and at first predominance is the rule. Only after frequent disappointment is a more hesitant attitude toward idea developed. Philosophers and psychologists of diverse schools have agreed upon this fact; and since it is one of the few things upon which they have agreed, let us note it joyfully and pass on. The term "belief" has a more personal flavor than has "knowledge. Reflection has already entered in to cast doubt upon the necessary validity of what we believe. Leaving aside for the time being the contrast-meanings which have grown up around the word, I think we have a right to say that belief involves the experience of knowing. Knowing as an attitude of acceptance is more primitive than that which we now call

belief. It follows, then, that knowledge as a meaning and experience precedes doubt and the hesitation and uncertainty which accompany it. But it is only after disbelief has succeeded belief that what was looked upon as knowledge is qualified as not-knowledge. When this exigency arises, the distinction between true and false beliefs is developed. Belief differentiates out from the knowledge-attitude and takes to itself the contrast with doubt and disbelief. What is believed rightly is a true belief, and a true belief gives us knowledge. Thus the previous analysis applies. It follows that the analytic and the genetic ways of approach confirm each other and assure us that knowledge as an experience precedes truth as an experience. Hence, we must examine the knowledge-experience as closely as we can in order to prepare the way for an understanding of what is meant by truth.

Vague as the term "knowledge" is, it is apparent that it implies an apprehension of some sort and that truth and its opposite refer to what is apprehended and thus presuppose the apprehension. Before we can go a step further, we must come to a decision in regard to the meanings of the word "knowledge." The critical investigations we have already made in the preceding chapters should stand us in good stead.¹

The nature of knowledge can be understood only after an adequate standpoint has been reached; that is why we have been forced to postpone discussion of it until now. He is mistaken who thinks he can understand the various meanings of knowledge by a hasty inspection of the cognitive attitude alone. We have already realized that this supposition was the primary mistake made by the new school of realists. The position adopted in common by Stout (Aristotelian Society, *Proceedings*, 1910-11, p. 188) and Russell (*ibid.*, p. 119), that ideas do not intervene between reality and the subject knowing, is due to this hasty inspection-view of knowledge. The result is a confusion between the necessary distinctions of logic, of common sense, and of epistemology. To understand the nature of knowledge, we shall be obliged to see what it

¹ While not a pragmatist, I heartily agree with the protest voiced by James against the usual assumption that the meaning of knowledge is clear in the current philosophies. Were it clear, I feel certain that idealists would no longer feel that they are justified in denying the right of the mental to know the non-mental.

means for common sense and for logic and then to point out how this meaning contains in germ the significance which critical realism must assign to it.

For common sense there are two kinds, or types, of knowledge; these are knowledge-of-acquaintance and knowledge-about. Both terms have a definite empirical meaning which it is not difficult to indicate. We say that we have knowledge-of-acquaintance when the object has been present in the field of our experience. For instance, I state that I have knowledge-of-acquaintance of a particular person. This assertion means that I have met him and thus know at first hand what sort of man he is. I know something definite about him and this knowledge is based on my own observation. Thus knowledge-of-acquaintance is knowledge acquired directly by the individual by means of the presence of the object. The knowledge gained in this way may be largely conceptual, but it is felt to involve immediate contact with what is known. It is, moreover, less general than knowledge-about usually is, although it contains conceptual elements. Knowledge-about, on the other hand, is indirect knowledge. Such knowledge is conceptual and has its source in inference or in communication. A detective may possess knowledge *about* the author of a crime founded on the traces left behind. He may be sure that the criminal is a strong man or a man of considerable ability. Again, he may be told by a witness that the criminal is so-and-so and is engaged in a certain business in the city. It is evident that knowledge-of-acquaintance is, primarily, knowledge *due to* acquaintance, and knowledge-about is knowledge *due to* inference and communication. While the English language possesses only the word "know" to designate these two kinds of knowledge, many other languages employ two words. Thus knowledge-of-acquaintance in Latin is *cognoscere*, knowledge-about is *scire*. In French, there are the two corresponding words, *connaitre* and *savoir*; in German, *kennen* and *wissen*. This distinction was emphasized by Grote, and, since his time, has become one of the recognized contrasts in knowledge. The greater part of the knowledge of the world possessed by any individual is knowledge-about. We depend upon books and conversation and interpret the information

thus acquired by means of our own experiences. Hence, we know *about* many things with which we are not acquainted.

This contrast between the two kinds of knowledge of things which we possess has been employed by psychologists and epistemologists as a basis for what they regard as a necessary distinction. Unfortunately, this difference in use has led to confusion. Theories have crept in which have no place in the empirical meanings. The plain man who occupies the standpoint of Natural Realism does not for a moment doubt that the things which he has knowledge *about* exist in the same way that things of which he has knowledge-of-acquaintance exist. Always they are independent of his knowledge; the difference lies in the kind of knowledge he has through his direct or indirect relation to them. They are present or absent; and this presence or absence does not affect them, but does affect the knowledge of the individual. The plain man accepts the difference in the kind of knowledge which ensues, but does not seek to explain it except in the most general way. He feels that it has something to do with his sense-perception. This common-sense contrast is really complex and contains two distinctions: first, presence to, and absence from, the thing known; second, two levels of knowledge—casual, immediately given knowledge and knowledge gained by investigation. The meaning of knowledge is still dominated by Natural Realism and is thought of as a direct or indirect *apprehension* of the object known.

The psychologist is interested in the knowledge an individual possesses of certain classes of sense-data. He points out that certain experiences, such as sounds and colors, may be lacking in the consciousness of particular individuals and that this lack cannot be made good by any amount of knowledge *about* sounds and colors. Knowledge *about* the function performed by colors and *about* their physical causes remains distinct from the immediate experience of the sense-qualities. It is as though knowledge-of-acquaintance of certain things in the physical world could not be acquired by particular individuals. But it is discovered by the philosopher that, when an individual is limited in this way, his knowledge-of-acquaintance of physical things varies in a corresponding way

from that of the normal man. This fact led thinkers like Hume to stress the primacy of sense-qualities in knowledge. This and other facts have caused us to refuse to regard the outlook of Natural Realism as adequate. But, while the psychologist's use of the empirical distinction helps to force home the problem of knowledge, it is a mistake to substitute it for the empirical meanings of common sense.

The epistemologist may desire to analyze the exact nature of the two kinds of knowledge and, impressed by the significance of the application of the contrast made by the psychologist to his field of investigation, may seek to universalize the application. Knowledge-of-acquaintance for the psychologist is founded on the real presence to the introspective subject of the sensations known. Knowledge-of-acquaintance is founded on knowledge *by* acquaintance; that is, by the presence of that which is known. To know is to be conscious of that which is known. And that which is known is independent of the introspective attitude called "being conscious of." Why not, thinks the epistemologist, apply this analysis of knowledge to all knowledge so far as this can be done? But that is precisely what the plain man has already done. He asserts that he is *aware of* things in the physical world or that he *perceives* them, while he is *conscious of* his feelings. In both cases, the natural view of knowledge is the presence of the thing known. Investigation enforces this view for the psychical and interposes weighty objections for the physical. Much of our task has been an evaluation of these objections and our conclusion was, that they were well-founded. Knowledge of the physical world does not involve the presence of that which is known. The problem which confronts the epistemologist is: How can these two kinds of knowledge be explained? The danger which threatens to vitiate his conclusions is the confusion of various standpoints. We shall try to bring this out by a criticism of the analysis of knowledge made by contemporary thinkers.

Mr. Russell regards the distinction between knowledge-by-acquaintance and knowledge-by-description as of fundamental importance for epistemology. Let us examine his use of these expressions. "I say that I am acquainted with an object,"

writes Mr. Russell, "when I have a direct cognitive relation to that object, *i.e.*, when I am directly aware of the object itself. This direct cognitive relation is simply the converse of the relation of object and subject which constitutes presentation. That is, to say that *S* has acquaintance with *O* is essentially the same thing as to say that *O* is presented to *S*." Now the plain man, as we have seen, believes that persons and physical things are presented to him. Not so Mr. Russell. He has worked out a theory of knowledge for which only certain things can be presented to the individual. Chief among these are sense-data, the "I," and universals. Now these are looked upon as non-mental and independent of the act of apprehension. We, on the contrary, have been led to hold that the word "mental" has two different meanings and that the subject-self, universals, and percepts are mental in the sense that they must belong to a stream of consciousness or the field of an individual's experience. We pointed out that the meaning of "aware of" is not epistemologically primitive, but arises out of the characteristics of the field of the individual's experience. It is essentially a reflection of the outlook which we have labeled "Natural Realism" (*cf.* Chap. IV). The fault that I have to find with Mr. Russell, as with Mr. Stout, is that he takes this construction as revelatory of the nature of knowledge. He seems to think that an epistemology can be founded on simple inspection. But this is not the case. The view of knowledge which inspection gives is a function of the standpoint; and the attainment of the proper standpoint is no easy matter, as we have found. The conclusion we reached was that all that is experienced as together with the self in one field of coexistence is mental and that this coexistential field has a developed structure which may be characterized as the subject-object duality. The object-side obtains such meanings as "commonness" and "permanence" and "reappearance," and the subject-side is forced to develop the meaning "aware of," to account for the coexistence of subject and object. Nevertheless, that which is actually present together with the subject is mental. We shall seek to indicate how this analysis enables us to conquer epistemological difficulties which have seemed insuperable. In the first

place, it follows that the individual can be acquainted with the mental only, if acquaintance involves the actual presence of that which is known; yet that which is mental may be *experienced* as a physical thing. Let us apply this result to the distinctions advocated by Mr. Russell.

What Mr. Russell would call a group of sense-data, I should call a thing-experience. Such a thing-experience is mental, although the plain man regards it as a physical (*i.e.*, non-mental) thing. Thus the objects in the field of the individual's experience which are qualified as common, independent, non-mental, permanent are actually personal, mental, transient, and not separable from the total field. Natural Realism, we saw, broke down and the Advance of the Personal led to the extension of the meaning "personal" to the whole field. The world is somehow *my* world. Now, Mr. Russell accepts the Advance of the Personal for the whole field so far as universals are not involved. But there is no justification for this exception. Universals are conceptual objects in the field of the individual's experience connected genetically and analytically with the rest of the field. We labored this point, however, long enough in the third chapter and can now afford to be dogmatic. It follows that all objects which are present in the field are mental, even though they may be experienced as physical or mathematical or ideal. Thus we have knowledge, by acquaintance, of whatever is in the field. Certain objects may be qualified as absent, but as objects to which we take the cognitive attitude they are present.

Let us pass next to what Mr. Russell calls knowledge by description. This type of knowledge holds for the rest of reality that can be known so far as it cannot be known by acquaintance. By a description he means any phrase of the form "a so-and-so" or "the so-and-so." The first form gives us an ambiguous description, the second a definite description. Thus an object is known by description when we know that there is one object, and no more, having a certain property. (Aristotelian Society, *Proceedings*, p. 113.) In indefinite, or ambiguous, descriptions we seem to deal with a class; in definite descriptions, with a single individual or thing. When we come to consider the contrast between knowledge by

acquaintance and knowledge by description which Mr. Russell has in mind, we find a confusion between the empirical distinction between knowledge-of-acquaintance and knowledge-about, and his own epistemological antithesis. Let us examine some of his statements. We shall find ourselves involved in a discussion of the nature of objective reference, or denotation.

Knowledge by description consists of judgments of which the thing known is not a constituent. (*Mind*, Jan., 1913, p. 77.) Yet we often intend to make our statement, not in the form involving the description, but about the actual thing described. That is to say, when we say anything about Bismarck, "we should like, if we could, to make the judgment which Bismarck alone can make, namely, the judgment of which he himself is a constituent." (Russell, *The Problems of Philosophy*, p. 88.) We certainly wish to make a true judgment about Bismarck, but I very much doubt that this is a judgment which Bismarck alone could make. There seems to be a confusion between Bismarck as a person of a certain character and political position and a self which he alone could intuit.¹ The object-self is as much a conceptual construction for the individual as it is for others, and our friends may know us better than we know ourselves. Now, the plain man speaks of his knowledge of persons just as he speaks of his knowledge of physical things. He believes he can *think of* them when they are not present and make true statements about them. As we shall see, it is upon this foundation that the distinctions of logic have grown. It is for this reason that logic is essentially realistic. What Mr. Russell is really struggling for is a new basis for logic in accordance with his own epistemology. His criticisms of the usual view of denotation can be understood only when looked at from this point of view.

In place of the proposition, "Julius Caesar was assassinated," which seems to claim Julius Caesar himself as a constituent, Mr. Russell is led to substitute the proposition, "The man whose name was Julius Caesar was assassinated." Julius Caesar is now merely a name, that is, a shape or sound,

¹ It will be remembered that we distinguished between the enjoyment, or immediate experiencing, of the subject-self as a part of the total field of the individual's experience and the knowledge which the individual may gain through reflection of his capacities and character. Mr. Russell does not emphasize this difference, if he recognizes it. I may have knowledge of Bismarck in this latter sense as valid and direct as that which Bismarck himself possessed.

and all the rest of the terms stand for concepts. Thus the proposition is reduced to constituents with which we are acquainted. But, in order to accomplish this result, we must be sure that the phrase, "the man whose name was Julius Caesar" is not a constituent with a unity of its own. So we must interpret this as meaning "One and only one man was called Julius Caesar, and that one was assassinated." This process of finding equivalents so that the denotation of a judgment may disappear may strike the reader as absurd; it seems so like the attempt of the ostrich. And I must confess that it so impressed me at first. It is, however, the logical result of his view of denotation. I shall attempt to show that this theory of denotation leads logically to solipsism.

Let us examine critically this theory of denotation. It will be best to give his own words and then point out the implications. "The denotation, I believe, is not a constituent of the proposition, except in the case of proper names, *i.e.*, of words which do not assign a property to an object, but merely and solely name it. And I should hold, further, that, in this sense, there are only two words which are strictly proper names of particulars, namely, 'I' and 'this.'" (Aristotelian Society, *Proceedings*, 1910-11, p. 121.) But, if this be the case, the individual's knowledge is limited to acquaintance with particulars, which are private; to concepts or universals, which, I have shown, are likewise personal; and to propositions involving these particulars and, therefore, as personal as they or composed of concepts which also are personal. How, then, can the individual make a reference beyond his own experience or claim to know other persons and things? Is not his knowledge essentially that of the acquaintance type, and does not the term "description" become a misnomer? Knowledge by description consists of judgments of which the thing known is not a constituent. The problem is, to show how judgment gives *knowledge about* a thing if it cannot indicate what thing it means. There would seem to be a chasm between the judgment and the thing which makes them absolutely indifferent to each other. It would require an absolute mind to know that the judgment contained knowledge of the existent. Thus Russell seems to me to be dangerously near such a position as that

advocated formerly by Royce in *The Religious Aspect of Philosophy*. So long as he will not become an absolute idealist, he should consider himself an epistemological solipsist.

The more we analyze his theory of knowledge in its relation to his logic, the more convinced we are that his difficulty lies in a false view of denotation. He denies denotation to the propositions which are descriptive because he believes it would conflict with the fundamental principle in the analysis of propositions; *viz.*, "Every proposition which we can understand must be composed wholly of constituents with which we are acquainted." (*The Problems of Philosophy*, p. 91.) Now, in the *Advance of the Personal* we have accepted a similar principle of an even more radical trend. The problem of reference faces us as definitely as it does Mr. Russell. Perhaps his position will show a lack of flexibility in his theory of knowledge where ours does not.

The words "denotation" and "connotation," "extension" and "intension" have had various interpretations. There is, besides, the question of usage to lead to confusion. The best tradition has kept the terms "extension" and "intension" for class-terms. The extension of a class-term refers to the species included by the genus. Thus the term "mammal" has the extension given it in zoological classifications as covering all the higher vertebrates. This does not mean that there is in nature an entity called mammal and that this is somehow found in the species. It does mean, however, that many small groups have attributes in common which enable us to classify them together as related genetically. The individual animals exist and possess certain attributes, some of which are shared with a small group, others with a larger group including this and other small groups. Our classifications as objects of knowledge also exist, and so do our concepts, which reflect these classifications. Hence, when we speak of the extension of a class-term, we think of the species which come under it in a classification. When we refer to the intension, we think of the defining attributes of the class. Another usage has extended the application of extension to the individuals. It is, however, better to speak of denotation when we are thinking of particular existents. Proper names and singular names thus have

denotation. They are signs of particular things which we *mean* when we use the signs. When I am thinking of Walter Scott, I have the name in mind because it is associated with all that I *know about* this individual; it has served as a nucleus for my information about the individual who was named Walter Scott. Hence, when I conceive the person and wish to tell others that I am doing so, I say that I am thinking about Walter Scott. In this sense, the name "Walter Scott" has denotation. It has social currency as a sign of a particular person about whom we can all think. That is, each of us can have a conceptual object in the field of his experience, which is labeled "Walter Scott." Instead of saying that a name has denotation when it is used as the sign of a thing or to show that we *mean* a particular thing or are thinking of an individual object, certain writers prefer to say that the name has objectivity. As Wolf rightly points out, the main function of a name is this reference to something. This is the truth Mill had in view when he wrote that names are "the names of things themselves, and not merely of our ideas of things." (Wolf, *Studies in Logic*, p. 23.) Now the name denotes, or is the sign of, something, and as such has objectivity; but this logical function of the name is founded on our ability to think of or conceive objects and to give names to them. Language aids our thinking, but its function is determined by our thinking. Hence, logic reflects the realistic structure and meanings which characterize our natural outlook on the world. It is a mistake to mingle logic and epistemology and seek to correct logical distinctions by means of epistemological doctrines. But this is precisely what Russell does.

Let us examine the basis of empirical reference or the objectivity of names. When I perceive an object, the denotation is given by the presence of the object. I am more apt to say, "It's a good book" than "This is a good book." Communication forces me to make my reference selective. Thus the physical thing which is present is the subject of my judgment, and the question of *what* physical thing I am judging about has no meaning for me. If, however, another person is present and I make the judgment verbally and socially, I must indicate by my eyes or by a gesture what object I am making

the subject of my judgment. If that is not sufficient, I add a description to make the reference more definite. I say that I mean—that is, am referring to or talking about or thinking of—that red book at the end of the table. My companion thus attends to the same book or, to put it more critically, in accordance with the Advance of the Personal, attends to a corresponding book-experience. When I go down stairs, I take it for granted that we can continue to mean the same book.¹ Why? Because I can think of what I regard as a permanent thing which was present to me. I can assert where it is and what it is like and test these assertions. I have done this so often that I do not doubt my ability. Because, again, my companion has understood me and has thought of the same book I was thinking of and this fact has been tested. Thus reference is developed by communication, and for physical things is based on spatial position and on descriptive qualities. I am thinking of a thing; yes, but *what* thing? Then I describe it until it is *selected* and stands out from all other things. Thus empirical reference consists of two features: (1) The ability to think of what is not present; and (2) the ability to distinguish this thing from other objects. And these two features develop hand in hand. Gradually the individual builds up a construct of the world in which things are placed in spatial and temporal relations to one another. Now, the difference between proper names and singular names concerns, not the ability to think of what is not present—for that is common,—but the means by which the attention of a companion is led to the thing of which you are thinking. A proper name is primarily a sign socially recognized. It is for this reason that it can be said to have denotation or objectivity. A singular name is a means of accomplishing this selective reference where an unambiguous sign has not been created. The absence of description in the modern proper name is made possible only by the conditions of its application; its background is always one of social agreement and mutual understanding; and, when this is removed, descriptive epithets must enter in to supplement it. I suppose every community has its big John Smiths and little John Smiths, its old

¹ This is what I have called indirect apprehension, or presence-in-absence.

Mr. Brown and young Mr. Brown. We have here the selective feature of reference. Are these singular or proper names? To ask the question is to see both kinds in their logical context or universe of discourse. It is unfortunate that the influence of formal logic has led to blindness in regard to such distinctions.

But have proper names meaning? Certainly. Their meaning is this: They are the socially accepted sign of a particular individual. Thus the meaning of a proper name is a function of its use, and denotation and meaning are inseparable. Besides this, which is its primary meaning, it usually acquires associations with information about the individual which it denotes. A singular name, on the other hand, acquires its denotation through its meaning; more accurately, the process of selection which we explained above is reflected in the words which are grouped together. The person who creates the singular name must be capable of thinking of the thing; his knowledge of it may be much or little,—that does not matter,—but he does not know a proper name which applies. How, then, can he direct the thought of others to this thing? Only by taking a class-name that means or denotes a large number of things of the same type without meaning *anyone of them as such* and adding attributes which select from these until only one is meant. In this way, indefiniteness of denotation passes to definiteness, while the concept which the words reflect becomes more complex. Suppose we define definiteness of denotation to be reference to one thing, no matter how little is known about that one thing, and indefiniteness of denotation to be reference to a class of things; that is, to many things without a selection among them. Then, so long as the thought is carried by a group of words to one thing in contradistinction from other things, that group of words has a definite denotation and is a singular term. When so used as a unity, the singular term denotes an individual, and its meaning is the thing which it denotes or, as the conceptualist would have it, the concept of the thing which it denotes. The difference between it and the proper name is one of genesis. The proper name acquires its meaning arbitrarily; it is created for a purpose. The singular name as a unity acquires its denotation, and thus its meaning,

because its parts already had their meanings and their application to the world of things, qualities, and relations. To put it another way, the singular name is composed of the words it is composed of because these words already had their objectivity, and these objectivities were the ones possessed by the thing to denote which the singular name was constructed. Thus "the author of the Waverly Novels" is a singular term denoting the *individual* who wrote the Waverly Novels. Its meaning is the object of thought which it calls up in the mind of the individual who uses it or understands it. Ordinarily, the mind is carried to what is experienced as the individual. The words lead us to think of the individual who wrote the Waverly Novels; but we hesitate, we want to know *who* he was, *i.e.*, what his name was and where he lived. Until we do, our curiosity is not satisfied. We do not have enough *knowledge about* the individual to think of him adequately. A single property like authorship does not select the individual to the degree that the plain man's realism demands. Thus reference for common sense is a very simple matter. The world is potentially spread out before our mind's eye, and a group of words actualizes some part of it. They are like a wand which points to a part and that part becomes clear, somewhat as a bit of landscape does when a fog breaks in front of it. Now it is only when logic is studied at this level of common sense that its distinctions become clear. The mistake of many logicians has been to mingle theory of knowledge with empiricism.

The epistemological logician will reply that this realism is impossible. When we think of things, the things are not actually the objects of our thought; the object of our thought is the *concept* of the thing. Very true; but this concept of the object, as you call it, to escape Natural Realism, is experienced as the object while you are actually thinking of the object, *i.e.*, not reflective on the nature of your thinking. Moreover, if you wish to revise the outlook which is reflected in logic you must maintain also that you cannot have acquaintance with things; you can have only percepts of things. How, then, do you get reference to things at all?

Empirical denotation, as we saw, is founded on the outlook

of common sense—that things are actually present to apprehension. It is because of this structure that we are able to make reference to them, to think of them, to have ideas of them. Destroy this basis, and denotation seems to be left in the air, like a dream-ladder which does not touch the ground. The problem here is fundamental. Logicians like Bradley and Bosanquet, who have idealistic tendencies, allow their theory of knowledge to enter their logic and assure us that Reality is the ultimate subject of every judgment. But how this Reality is present to the judgment they do not tell us very clearly. They say that Reality appears to us in perception or that we have contact with it in feeling. Very good; but this does not explain the logical distinctions which our language reflects. When I assert that this typewriter needs oiling, I am judging about the typewriter and do not concern myself with a more ultimate reality. In other words, logic, as a science, should try to understand the distinctions reflected in judgment and in the field of experience in general, rather than create new ones on its own responsibility.

Now, the point I wish to make in contrast to the idealists, Bradley and Bosanquet, and the realist, Mr. Russell, is that the denotation worked out by common sense can be used by critical realism. The one-to-one correspondence between thing-experience and physical thing makes this possible. The pencil which I handle is a physical thing corresponding to the thing-experience which it partially controls. These are identified by common sense, but reflection forces us to distinguish them. In place of the physical thing we then say that we have a percept caused by the thing and a concept of the thing. This concept may be expressed in terms of several propositions which state our knowledge about the thing. It is evident that the mechanism of denotation, or reference, arises within experience and does not require the actual presence of the object denoted. Neither knowledge-about nor reference necessitates a mysterious cognitive connection of the mind with physical things.

We are now in a position to compare our own theory with that advocated by Mr. Russell. Denotation is for Mr. Russell the real presence of the thing denoted. But only

the "I" and the "this" can be so present. It is for this reason that he speaks of the judgment which Bismarck alone can make and sets this up as an ideal which our propositions attempt to describe. If he were right in this, how could we ever be sure that our propositions were correct in their descriptions? My own position is that denotation depends on the organization of the objective sphere of our field of experience. If there is no *locus* there for the reference of an idea, the idea of reference cannot develop. This means that ideas are secondary to thing-experiences. When we once realize that we actually handle physical things, the one-to-one correspondence between them and the thing-experiences which gives meaning to this critical development of reference becomes clear.

There are three facts which should be kept distinct. The first is mere presence in the individual's field of experience. We have tried to prove that nothing which is not mental in the larger sense of that term can so be present. This fact is the truth of idealism. Now, that which is present and thus mental is not necessarily known. The second fact is the existence of the attitude called cognitive, in distinction from the attitude called practical, taken by the subject-self toward a part of the field called the object. This object is a construct within the field of the individual's experience. If the object has the marks which mean to us a physical thing, it is experienced as common and independent and permanent. There are, however, many other kinds of objects toward which the self takes the cognitive attitude. Concepts or universals, ideas, propositions, mathematical objects, fairyland may in this way be contrasted with the subject-self. In the inclusive sense of the term, all such objects are mental. Let us call this knowledge, consisting of the presence of the object, intuitive knowledge. I have tried to prove that we cannot have intuitive knowledge of physical things. Natural Realism takes this contrast *within* experience naturally enough as one between the individual knowing and an independent reality known when it deals with physical things, certain ideal objects and, perhaps, mathematical objects. There is vacillation when other objects are concerned, for common sense is sure only of the extreme cases. States of mind and concepts are, on the

other hand, looked upon as not independent of the individual knowing, although independent of the knowing. Science, we have shown in the chapter "Natural Realism and Science," works within this outlook but lifts the thing-experience from the perceptual to the conceptual level and seeks to remove the personal perspective by means of measurement. It thus obtains what it regards as objective data and interprets this by hypotheses, organizing concepts, and theories. But there is another fact in regard to knowledge which is equally important. I say that I *know* a thing when I take a cognitive attitude toward it as an object; but I say that I have *knowledge of* an object when I have what I consider a true idea of the object. Now, the possibilities of these two kinds of knowledge are different. The first kind is limited to what is supposedly actually present along with the subject; it is a knowledge of apprehension or of presentation. We have seen that both science and common sense take this contrast — which exists only within experience — to hold between the individual knowing and an independent reality.

The second kind of knowledge, that in which an idea or a series of propositions taken as a unity is referred to an existence, implies the separateness of the knowledge possessed by the mind and the existence known. It is this kind of knowledge that is given us by ideas of things or by judgments about things. In Chapter V we traced the genesis of this contrast. We saw that it consisted of the distinction between two elements of which one is present and is called the idea, or content of the judgment, and the other is qualified as absent and is called the reality known. These two elements are cognitively relative in the sense that one means the other which it knows, while the other is known by the idea which means it. This cognitive contrast between idea and thing, in which the idea is qualified as present while the thing is qualified as absent yet meant by the idea, is the basis of knowledge which is not intuitional. The idea *means* the thing; it is the idea of the thing (which are two ways of stating the same fact), but this does not imply an existential relation between them. In truth, the thing known is regarded always as independent, for its existence and nature, of the idea which

"means" it and gives knowledge of it. The thesis which I shall seek to maintain is that this second kind of knowledge furnishes the basis for knowledge referred to existents which are not in the field of the individual's experience. This thesis furnishes the epistemological foundation for a mediate realism.

We have seen that Mr. Russell scorns the supposition that ideas can furnish knowledge of things. "The relation of mind, idea, and object, on this view, is utterly obscure, and, so far as I can see, nothing discoverable by inspection warrants the intrusion of the idea between the mind and the object." (Aristotelian Society, *Proceedings*, 1910-11, p. 119.) Mr. Stout agrees with him on this point and bases his position on the impossibility of explaining truth and error unless reality itself is the immediate object of thought. (*Ibid*, p. 189.) I do not see that they have succeeded very well with their intuitionistic views, and I believe that the problem of truth and error solves itself when ideas are admitted. To the statement of Mr. Russell,¹ I can only reply that the distinction between ideas and things is an empirical one which everybody is aware of. Thus Professor Dewey analyzes out the contrast—the idea which is cognitional and the thing which it means. For instance, I have an idea of the Louvre, an idea which means the Louvre. The Louvre is absent while the idea is present. The denotation of the term "Louvre" is thus given by the object which my idea means. When I assert that the Louvre has a side facing the Seine, I do not ordinarily realize that this is *my* judgment about the Louvre, a building existent in Paris; I think of the Louvre and see, as it were, that it has a side facing the Seine. In the preceding treatment of denotation, we saw that logic is founded on this common-sense outlook; and it is this which Mr. Stout supports on the foundation of inspection. But in my more reflective moments, I repudiate the presence-in-absence of the Louvre and hold that I have an idea of the Louvre (an idea which means the Louvre) and that I believe that this idea is

¹ In *The Problems of Philosophy*, Mr. Russell asserts that Berkeley had the right to say that "thought of a tree must be in our minds." So far as I can gather from the context, he uses the word "thought" as synonymous with idea. I am not quite certain what Mr. Russell means by "thought." Common sense and logic and psychology mean by it an idea-object or concept. If this is what Mr. Russell means, the statement that we are not aware of anything between the "mind" and the object is refuted.

true. This idea is expressed in the assertion which I have made. Or, to put the same analysis in a different form, I make a judgment, assent to a proposition which is the object of my thought, and then interpret this judgment by means of interpretants which make explicit the object about which I am judging. I shall assume in the rest of the argument that men do possess the empirical distinction between a cognitional idea and the thing which it means. (See the excellent article by Dewey entitled, "The Experimental Theory of Knowledge," *Mind*, Vol. XXXI.)

The next question we must ask concerns the status of such a cognitional idea. Professor Dewey asserts that "from a strictly empirical point of view, the smell which knows is no more merely mental than is the rose known." It is time that the scandalously inadequate treatment of the terms "mind" and "mental" ceased. For instance, Mr. Russell admits that "the word 'mental' is one which, so far as I know, has no well-defined meaning." (*Mind*, Jan., 1913, p. 78.) How can we hope to solve problems in theory of knowledge unless we work out definite meanings!

In the preceding chapters we analyzed several definite meanings, which we shall now seek to apply. The meaning of the word "mental" is, first, a function of the point of view of the psychologist. It signifies the psychical as a state of mind. Psychology, as a special science, deals with consciousness as something of which the individual is introspectively conscious, while the external sciences are supposed to study the physical. At least, this is the meaning which custom has assigned to the psychical or merely mental. I do not believe that the psychologist of the present day is quite certain what he means by the psychical. The mental is, next, the mind as opposed to the objects known. This is the epistemological meaning of the term. Unfortunately, the immediate realist takes the first meaning of knowledge literally. The object known is supposed to be present to the mind even when it is non-mental. We saw that this sense of knowing is founded on a contrast, *within* the field of the individual's experience, which is experienced as one between the individual as knowing and the object known. This contrast is left vague by common sense,

and the epistemologist who tries to investigate it gets either a subject-self inseparable from the object side, or not-self (Bradley, Ward, and the idealists generally), or a mysterious act of apprehension, or consciousness (Moore, Russell, and the immediate realists). But we have shown that this distinction is within the field of experience. Thus the epistemological mental is a subspecies of the mental.

A third meaning of the term is that indicated by Professor Dewey. An idea as an object of thought is mental in so far as it exercises an intellectual function. Thus a concept is mental in so far as it is thought of as mediating knowledge of things, although it is an object of our thinking. But an object of thought when so used can be qualified by reflection as personal. We have tried to show that reflection cannot escape such a result. It is *my* idea; and the reason for this qualification is the personal character of ideation. I have found by intercourse with my fellows that the *idea* of a supposedly common and independent thing which I cherish is different from that cherished by others and that this difference is explicable in terms of my past experience. The personal *quale* enters and forever after attaches itself to *ideas* of things. This, like truth, is a reflective meaning. The result is a contrast between my idea and the thing which is common and independent. But the very motives which have convinced us that the idea-object is personal have forced us to connect it existentially with the rest of the field of experience. Hence the idea-object is mental in the fourth and most inclusive sense. This fourth meaning is the one which I have taken such pains to distinguish from the psychical in the subjectivistic interpretation of that term. It is within the mental in this larger sense that all the other contrasts arise.

But we must distinguish between two kinds of knowledge-of. There can be no doubt that we possess knowledge of thing-experiences. While we are resting at the level of Natural Realism, we employ the contrast between the presence of things and ideas of them when they are absent. Again, the distinction between acquaintance-with and knowledge-about is an empirical one which everyone recognizes. The empirical realism of certain recent writers is based on the fact that this

distinction has significance within experience and involves no transcendence. Knowledge-about is more conceptual than acquaintance-with, and it is soon realized that the presence of the object in its perceptual form does not give this knowledge which science emphasizes. The artist, on the other hand, is primarily interested in the knowledge-about which terminates satisfactorily upon the knowledge given by acquaintance-with. At this point a parting of the ways is imminent. It is time for the epistemologist to realize that the level of Natural Realism has been outgrown and that science possesses a selected sort of knowledge-about which claims to be valid of existents, which, as such, cannot enter the field of the individual's experience, but which control the construction of thing-experiences and determine the data collected by the scientist.

When the scientist asserts that this table has a certain size relative to a meter-stick, is made of wood of a certain texture, which is composed of cells, which themselves have a peculiar structure, and so on, he is asserting knowledge about the table as an existent independent of his mind. How must we interpret this knowledge? So far as the *form* of the propositions is concerned, there is no difference between these judgments and those of common sense. If you ask the scientist what table he is judging about, he will usually reply, "The one I see in front of me." But we have seen how ambiguous this answer is. "The table I see" may mean that I am able to intuit a physical thing, or it may mean that the physical table is causally connected with my present percept or thing-experience. In the first instance, I occupy the standpoint of Natural Realism and believe that my thing-experience is the table; in the second instance, I believe that my thing-experience is *controlled by the physical thing* and that there is thus a one-to-one correspondence between them. This one-to-one correspondence is unique and is built up around the body. The microcosm of mind and the macrocosm of reality are like universes which radiate from the same centre. Thus the denotation in the one selects existents in the other without essential readjustment. It is for this reason that the judgments of common sense do not need to have their form changed when they are interpreted by science. It is also the reason

why science, although its outlook is that of mediate realism, is not always aware of it. In his moments of placid naïveté the scientist will inform you that matter is that which he feels.

The difference between Natural Realism and critical realism does not lie in the form of the judgment, for that remains of necessity the same. We have seen how realistic is logic—a characteristic which has always bothered idealism. The natural realist, as well as the critical realist, believes that he is thinking of something which the subject-term denotes and that he is making assertions about this thing. But the critical realist goes further and defines scientific knowledge of the physical world as knowledge about that which can never be literally within the field of an individual's experience. Knowledge consists of assertions in regard to behavior, structure, and relations which we cannot help making and referring to an existent corresponding to the thing-experience which it causally controls. Thus critical realism employs the logical structure built up by Natural Realism, but goes a step further as the result of the contrast between percept and physical thing.

We are at last in a position to consider the question of the relation of mind, idea, and thing. Within the individual's experience the only difference between idea and thing is one of function. Both are objective; but the idea means the thing, and the thing is known by the idea which "means" it. On the other hand, we ordinarily assume that the reality itself is the object of our thinking. This is the basis of denotation. The word denotes that which it leads us to think about. We have, then, the subject-object structure within our experience, and no idea intervenes between. It is to this fact that Russell and Stout refer when they assert that ideas do not come between the mind, or the subject, and the object. True; but other reasons may lead us to judge that the object of our thought is not actually the thing which we take it to be. When reflection forces us to adopt this position, we may call the object on which our thought terminates an idea in order to distinguish it from the existent which cannot be present. It is our idea, or concept, of the existent, yet it is the object of our thought.

Mr. Stout finds this view indefensible because it seems to him to involve the impossibility of something owing its whole being to its relation to something else. (Aristotelian Society, *Proceedings*, 1910-11, p. 187.) But this objection is founded on a radical misunderstanding. An object of thought is not experienced as dependent on the thought. The object is qualified as of a certain kind. Now, when it is reflectively qualified as an idea, its character is not changed, but its sphere of existence is. It is now considered mental but not dependent on our thought of it. Logically speaking, an idea is just as objective as any other object of thought.

Those who hold that ideas cannot be the objects of thought in judgment do so for another reason as well. Once separate real being and being for thought, say they, and it is impossible to explain truth and error. Let us see whether this dictum is justified.

Two questions must be distinguished from the start. The first is: What do we mean by truth and its opposite, error? The second is: What is the criterion by means of which we judge that any particular belief, judgment, or idea is true or false? These questions are at least relatively separable.

The truth we are concerned with is the truth of our beliefs and propositions. Hence we shall not speak of *the* Truth with a capital and identify it with Reality. Such a transcendental or metaphysical truth is often contrasted with the inadequacy of our conception of it. It is evident that the assumption here is that something which transcends our experience is true in its own right and that it thus furnishes a measure of the degree of truth of our halting and finite knowledge. I see no good reason why such an independent reality should be called the Truth. Certainly, no solution of the problem of truth is possible while the term is used in two senses. Try as we will, confusion inevitably results. For the realistic, non-idealistic system which we have developed in these pages, there is no ground for a Transcendental Truth, so we shall quietly omit all identification of truth and reality.

Truth is, then, a reflective qualification of those ideas, beliefs, and judgments which we regard as giving us knowledge about some sphere of reality. Its opposite is error, or falsity.

We saw that the supposition of knowledge comes first genetically and analytically. We believe or judge or have ideas and we consider these cases of knowledge-of. But we find that we are mistaken frequently enough when the affair comes to the test. The result is reflective comparison within experience between the object which we meant to characterize and the characterization which we had before our minds. Such reflection has its birth in disappointment; therefore, we may say that error as a meaning logically precedes that of truth. As the consequence of our unpleasant experience of knowledge-of, which failed to agree with the field to which it pointed, we are led to realize that we are not infallible and that that which we take to be knowledge is not knowledge. To express this discovery, the term error is used. But the very characterization of some knowledge-of as erroneous implies that other examples of knowledge-of are not erroneous and the contrast-meaning "truth" grows up to describe these. Naturally, we desire our knowledge to be true and not false. The premium is placed on truth, and it becomes a meaning attachable to what claims to be knowledge in anticipation of the test which alone would completely assure us. Hence, the question, Is it true or is it false? is theoretically present in adult experience along with every belief or judgment or idea. But our experience is not only a growing one; it is also a conserving one. Many ideas and beliefs have been tested over and over again, so that trueness is attached to them. These ideas and beliefs are like coins which have stamped upon them a mark assuring their genuineness. We may say, then, that truth is a meaning which grows up within experience to characterize cases of knowledge-of which have made good their claim. Human nature being what it is, this meaning is often attached to beliefs and ideas which will not stand a complete test. Since its application is premature, it must frequently be removed and its opposite reluctantly attached.

The conclusion we have come to is that truth is a meaning applied to cases of knowledge when these have been tested. *It means that this idea or judgment is an instance of knowledge.* Now, the usual theories of truth have neglected this connection and have sought a definition of truth apart from the nature of

knowledge-of. It seems to me that much of the misunderstanding which has fed recent controversies is due to the neglect of this relation. For instance, the coherence theory has grown up on the palpable fact that any theory or belief is in part judged by its harmony with other theories and beliefs which have already been accepted as true. This is certainly one of our usual ways of testing ideas and beliefs which have no adequate immediate test. We believe that ideas which are true must be coherent. This belief is founded on the principle of non-contradiction, which is a law of our thought. But it does not follow from this belief that a system, because it is coherent, must, therefore, be true. That would be an example of false conversion. If not, we cannot treat coherence as a universal sign of truth and, therefore, as a part of its definition. We are forced to discard coherence as a theory of truth, although we may retain it as one of the criteria of particular ideas and hypotheses. It may be of interest to note that this conclusion turns us aside from the strange leap into an Absolute Experience which is usually made by the advocates of the coherence theory. Let us glance at an example of the leap to which I refer.

In his study entitled *The Nature of Truth*, Mr. Joachim points out that the coherence which the theory has in mind is not that of formal logical consistency. "The systematic coherence, therefore, in which we are looking for the nature of truth, must not be confused with the consistency of formal logic. A piece of thinking might be free from self-contradiction, might be consistent and valid as the formal logician understands those terms, and yet it might fail to exhibit that systematic coherence which is truth." (p. 76.) As I understand formal logic, it does not concern itself with the question of truth, but with that of validity of inference. In contrast to bare intuition of truths and their consequences and to the ideal of formal consistency, we have put forward the "relative self-dependence" of the organized whole of a science. But Joachim swerves suddenly aside from this line of approach, which has relevance to human truth because it stresses the growth of human knowledge, and we hear of a significant whole which is "an organized individual experience, self-fulfilling

and self-fulfilled." But "there can be one *and only one* such experience; or only one significant whole, the significance of which is self-contained in the sense required" (*ibid.*, p. 78). It is evident that we have left behind human experience and truth as these develop in science. But science concerns itself with knowledge about a reality which it does not literally include. Hence, it can never be self-sustaining. In other words, the metaphysical theory of coherence finds no ground in the truth of human knowledge. Logical truth with its dualistic implications is alien to Transcendental Truth. One must praise Mr. Joachim for his evident sincerity and at the same time grieve that he does not see the implications of his argument. We have here a beautiful example of the mingling of logic and metaphysics and of the confusion which results from it.

Another theory of the meaning of truth which has much in its favor and many admirers is that of correspondence. Does truth consist in some form of correspondence between ideas and beliefs and reality? We have said that knowledge-of does involve an agreement between ideas and that which the ideas mean. The kind and degree of agreement is set by the idea which knows. Suppose that when I am absent I have an idea of a picture—a copy of "The Concert," by Giorgione, which hangs in my study; this idea means the object hanging on the wall. Its truth concerns the agreement of the salient features of the idea-object with the corresponding features of the object which I later experience. The one fits on, harmonizes with, that which it means when the picture again comes into view. We then say that it was a *true* idea. Now we all know what such a harmony or agreement is. It exists when we pass from one object (the idea) to the other (the thing) without a necessary correction of the idea. "Trueness" or "truth" is the meaning which expresses to us the fact of this agreement. When applied in anticipation, it stands for our conviction that the idea does contain knowledge of the thing of which it claims knowledge. Such a correspondence, which can be empirically tested, is open to none of the objections ordinarily urged against the correspondence theory. The reality is only momentarily absent and can again be present.

It is evident, also, that truth cannot consist in a static relation between idea and thing, since "knowledge," which is the more elemental term, does not.

But the situation which we sketched above is a very simple one. The idea is true so far as it goes, but it very often does not claim to go very far. Suppose, however, I assert that this picture was painted by Giorgione. My idea is very complex and can be expressed adequately only by a proposition such as, "The picture in the Pitti Gallery called 'The Concert' was painted by Giorgione." I denote an object and make an assertion about it. What I assert is knowledge about the picture and can be tested only by the external and the internal evidence. If this evidence does not agree with the supposition, I judge that the proposition which expressed my idea about the picture is erroneous; it is in that case not knowledge and not true. Now the harmony or lack of harmony of an idea or proposition with the evidence or facts is an empirical matter in no wise mysterious. Decisions of this character are made every day in science and in historical investigation. The relation of the available facts and the idea, which may be a theory, is not one of copying, but of tested harmony.

We may say, then, that, just as knowledge is an achievement of the mind involving no transcendence of the mind in any literal sense, so truth is a human affair. It is a critical affirmation of knowledge. The tests of knowledge are those of truth. In order that we may see this more clearly, let us confine ourselves to knowledge of nature. At the level of Natural Realism, I distinguish between my ideas of University Hall and University Hall itself. I ask whether my ideas are true, *i.e.*, whether they give me the knowledge they claim to give. I test these ideas of mine by an actual perception of the building. If they agree with this perception, I assert that the ideas were true, *i.e.*, they gave me knowledge. But if it is scientific knowledge which I wish to obtain, I realize that the perception is only a part of the means. My knowledge must consist of propositions which are referred to an existent. I must allow this existent to control my percepts and data according to adequate methods. If these harmonize with the propositions, I assert that the latter are true. It is evident

that here, as elsewhere, the tests are within experience, although they involve a control of experience by that which is outside.

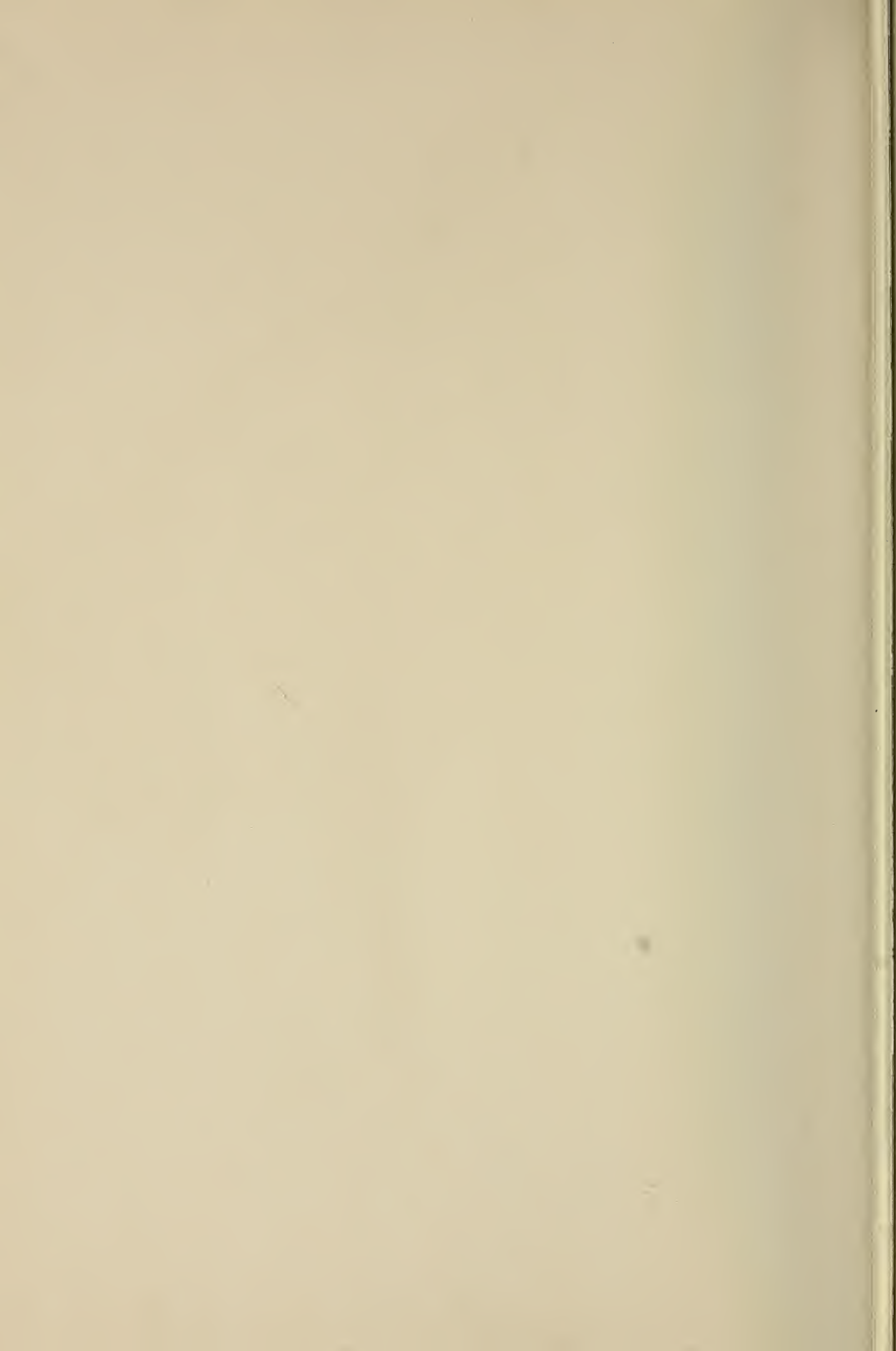
I should like to stress the fact that not all ideas or propositions claim to give knowledge about that which is extra-experiential. When my ideas claim to give me knowledge of the world only as it appears to me, the way to test them is to go again to immediate experience. In this way, I am able to compare the idea-object with the object which it claims to know. What is this but correspondence? But it is an empirical correspondence. The test is of this face-to-face sort. There can be a comparison. At the level of mediate realism, it is realized that such a comparison between physical existents and propositions which are supposed to contain knowledge is impossible. The test is immanent and concerns the harmony between data and propositions based on them according to inductive and deductive methods. When we realize the difference between the knowledge-references in these two cases, we see that, while correspondence may be the correct ideal of one, it is not that of the other. This conclusion agrees with our decision that the mental can know the non-mental.

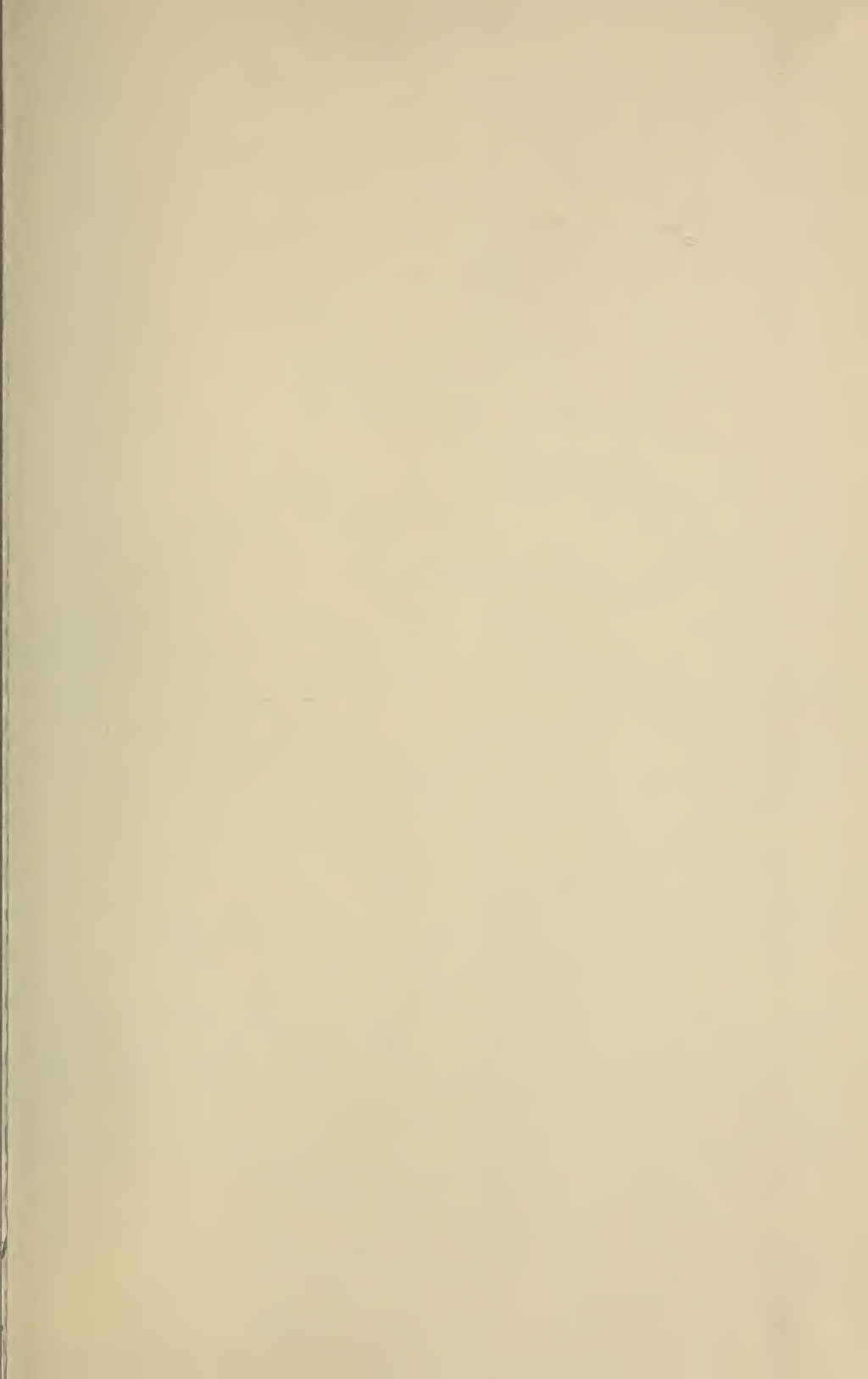
Our conclusion can be brief. We have, I hope, simplified the problems of knowledge and truth and extricated them from the misleading contexts which various schools of philosophy have thrown around them. We have shown how Natural Realism passes naturally to critical realism through empirical motives which burst the old shell. As a matter of fact, we have at times over-simplified Natural Realism and given it a unity and internal harmony which it does not possess in actuality. I hope I have made it evident that critical realism exists already preformed, as it were, in Natural Realism, that is, in the plain man's outlook. Our task has been to clarify it and make it conscious of itself. Knowledge is an achievement and possession of minds as these have evolved under the stimulus of their environment. As a meaning, knowledge precedes truth, which is a reflective deepening of the sense of knowledge in the light of an awakened doubt. The criteria of truth are, therefore, the same as those of knowledge. Truth is thus accepted and tested knowledge. To say that an idea is true is to say that it is actually a case of knowledge

as it claims to be. Truth is knowledge triumphant instead of knowledge militant; yet it is knowledge, as can be seen when we combine the two terms and speak of true knowledge. Knowledge militant is opposed to ignorance, and knowledge triumphant to error.

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